

# **NON-PATENT LITERATURE**

File 155:MEDLINE(R) 1951-2005/Jul W1  
 (c) format only 2005 The Dialog Corp.

File 5:Biosis Previews(R) 1969-2005/Jun W4  
 (c) 2005 BIOSIS

File 73:EMBASE 1974-2005/Jul 05  
 (c) 2005 Elsevier Science B.V.

File 34:SciSearch(R) Cited Ref Sci 1990-2005/Jun W4  
 (c) 2005 Inst for Sci Info

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
 (c) 1998 Inst for Sci Info

File 144:Pascal 1973-2005/Jun W4  
 (c) 2005 INIST/CNRS

File 94:JICST-EPlus 1985-2005/May W3  
 (c) 2005 Japan Science and Tech Corp(JST)

File 95:TEME-Technology & Management 1989-2005/May W5  
 (c) 2005 FIZ TECHNIK

File 99:Wilson Appl. Sci & Tech Abs 1983-2005/May  
 (c) 2005 The HW Wilson Co.

File 35:Dissertation Abs Online 1861-2005/Jun  
 (c) 2005 ProQuest Info&Learning

File 65:Inside Conferences 1993-2005/Jul W1  
 (c) 2005 BLDSC all rts. reserv.

File 6:NTIS 1964-2005/Jun W4  
 (c) 2005 NTIS, Intl Cpyrght All Rights Res

File 8:Ei Compendex(R) 1970-2005/Jun W4  
 (c) 2005 Elsevier Eng. Info. Inc.

Set	Items	Description
S1	62182	(VERTEBRAL OR INTERVERTEBRAL OR SPINAL OR LUMBAR OR INTERSPINOUS) ( ) (DISC? ? OR DISK? ?) OR DIS?ECTOMY
S2	1180109	IMPLANT? OR PROSTHES?S OR PROSTHETIC? ?
S3	56369	CUSHION??? OR DAMPENING()MATRIX OR LIQUID()FILLED OR HYDROGEL
S4	624123	SPRING OR SPRINGS OR COIL? ? OR SPONGE OR SPONGES
S5	7702884	SUPPORT? ? OR PLATE OR PLATES
S6	515354	POSTERIOR??
S7	4270915	ACCESS??? OR APPROACH???
S8	5980	S6(N) S7
S9	441	S1 AND S8
S10	2994	S2 AND S3:S4 AND S5
S11	0	S9 AND S10
S12	18325	S2 AND S3:S4
S13	0	S9 AND S12
S14	94	S2:S5 AND S9
S15	23	S2:S4 AND S9
S16	15	RD (unique items)
S17	2	S16/2004:2005
S18	13	S16 NOT S17
S19	13	Sort S18/ALL/PY,A
S20	0	(S2 AND S5 AND S9) NOT S15
S21	1	S1(S) S6 AND S10
S22	1	S1 AND S2 AND S6 AND S10
S23	0	S22 NOT S21
S24	23	S1 AND S2 AND S6 AND S14
S25	0	S24 NOT S15
S26	321	S1/TI,DE AND S8

S27           9    S2/TI,DE AND S26  
S28           0    S27 NOT S15

19/6/2       (Item 2 from file: 144)

13497856    PASCAL No.: 98-0195771

**Interbody cage stabilisation in the lumbar spine : Biomechanical  
evaluation of cage design, posterior instrumentation and bone density  
1998**

19/6/4       (Item 4 from file: 155)

12692477    PMID: 10616055

**Indirect posterior reduction and fusion of the traumatic herniated disc  
by using a cervical pedicle screw system.  
Jan 2000**

19/6/6       (Item 6 from file: 155)

13617137    PMID: 11242387

**Paired cylindrical interbody cage fit and facetectomy in posterior lumbar  
interbody fusion in an Asian population.  
Mar 1 2001**

19/6/8       (Item 8 from file: 155)

17564876    PMID: 15766232

**A minimally invasive approach for posterior lumbar interbody fusion.  
Dec 15 2002**

19/3,K/1     (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

(c) 2005 Elsevier Science B.V. All rts. reserv.

05595132    EMBASE No: 1993363232

**Principles of surgical treatment of the cervical spine in rheumatoid  
arthritis**

Grob D.

Schulthess Klinik, Neumunsterallee 3,CH-8008 Zurich Switzerland

European Spine Journal ( EUR. SPINE J. ) (Germany) 1993, 2/4 (180-190)

CODEN: ESJOE ISSN: 0940-6719

DOCUMENT TYPE: Journal; Review

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH; FRENCH

...down to the lower cervical spine, a titanium Y-plate is presented as a  
successful **implant** . While through a **posterior approach** , stability may  
be achieved, decompression is preferably done by anterior **discectomy** or  
vertebrectomy. Encouraging results with a significant recovery of  
neurological deficits justify an early intervention...

19/3,K/3     (Item 3 from file: 73)

DIALOG(R)File 73:EMBASE

(c) 2005 Elsevier Science B.V. All rts. reserv.

11104096    EMBASE No: 2001123699

**The Hartshill horseshoe: The treatment of chronic pain patients with  
disogenic pain in the absence of neural compression. A prospective 2 1/2-  
to 3-year review**

Peckett W.; Hardcastle P.; Sheppherd J.; Sridhar C.

Dr. P. Hardcastle, P. H. Hardcastle Pty. Ltd., A.C.N. 009 186 305, 217

Cambridge Street, Wembley, WA 6014 Australia

Journal of Musculoskeletal Research ( J. MUSCULOSKELET. RES. ) (Singapore)

) 2000, 4/3 (209-220)  
CODEN: JMUFR ISSN: 0218-9577  
DOCUMENT TYPE: Journal ; Article  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH  
NUMBER OF REFERENCES: 39

...fusion. The advantage of using tricortical blocks as opposed to the dowel technique is that **intervertebral disc** height can be restored. Both techniques can be performed either by the anterior or **posterior approach**. The traditional tricortical block technique has advantages over using dowels as it is a more stable construct and can restore **intervertebral disc** height. However, autologous bone graft has an unpredictable behavior causing potential problems of disc space...  
...site morbidity. The Hartshill horseshoe was developed to overcome these autograft problems. It is an **implant** that is placed within the periphery of the **intervertebral disc** space where the vertebral end plate is strongest to resist compression forces. It has holes that allow screw fixation of the **implant** to bone to provide immediate stability and a central area for bone graft where the...  
...postoperative. The radiological results do not show any evidence of loosening of the screws or **implant** nor evidence of **intervertebral disc** space subsidence. It was not possible to assess the exact incidence of spinal fusion.

MEDICAL DESCRIPTORS:

\*chronic pain; \*nerve compression; \* **intervertebral disc** disease  
--surgery--su; \* **intervertebral disc** disease--disease management--dm; \*  
**intervertebral disc** disease--diagnosis--di; \*nerve block  
human; clinical article; clinical trial; female; male; adult; spine fusion;  
**implant** ; prospective study; neuromuscular blocking; height; bone graft;  
surgical technique; graft failure--complication--co; morbidity; xenograft;  
biomedical technology assessment; biomedical engineering; treatment outcome  
; molecular stability; plate fixation; **prosthesis** fixation; bone plate;  
vascular access; incidence; radiological parameters; **prosthesis** loosening  
--complication--co; bone screw; bone **prosthesis** ; article

19/3,K/10 (Item 10 from file: 155)

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

14566155 PMID: 12557599

[Use of bioceramics in the treatment of fractures of the thoraco-lumbar spine]

Pouziti biokeramiky pri osetrovani zlomenin TL patere.

Stulik J; Krbec M; Vyskocil T

I. ortopedicka klinika 1. LF UK a FN Motol, Praha.

Acta chirurgiae orthopaedicae et traumatologiae Cechoslovaca ( Czech Republic) 2002, 69 (5) p288-94, ISSN 0001-5415 Journal Code: 0407123

Publishing Model Print

Document type: Journal Article ; English Abstract

Languages: CZECH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... stabilization of all types of injury to the thoracolumbar spine is currently performed from the **posterior approach** by an internal, transpedicular fixator. The exceptions are type A fractures, according to the AO...

...inserted in the body of the damaged vertebra (20 patients) and the other bioceramic granules implanted in both the vertebral body and the intervertebral space (22 patients). METHODS: In all the...  
...spinal column were as follows: If the vertebral body was injured without destruction to the intervertebral disc, a bent elevator was inserted through the vertebral foramen and the intervertebral joints were reduced...  
...pusher, in the anterior part of the injured body. If the fracture involved a destroyed intervertebral disc, the disc was removed, the vertebral end plate of the adjacent vertebra was perforated and...  
...was 0.67 degree in both instances. In the group of patients with bioceramic granules implanted in both the vertebral body and intervertebral space, the kyphotic angle was on average 9...  
...e., twice as high. This may be explained by a more serious damage to the intervertebral disc in the latter group. Only small differences between the groups were found in the kyphotic...

19/3,K/11 (Item 11 from file: 73)  
DIALOG(R)File 73:EMBASE  
(c) 2005 Elsevier Science B.V. All rts. reserv.  
12383622 EMBASE No: 2003508960  
**Perioperative Complications of Threaded Cylindrical Lumbar Interbody Fusion Devices: Anterior Versus Posterior Approach**  
Scaduto A.A.; Gamradt S.C.; Yu W.D.; Huang J.; Delamarter R.B.; Wang J.C.  
Dr. J.C. Wang, Department of Orthopaedic Surgery, UCLA School of Medicine, Box 956902, 10833 LeConte Ave., Los Angeles, CA 90095-6902  
United States  
AUTHOR EMAIL: jwang@mednet.ucla.edu  
Journal of Spinal Disorders and Techniques ( J. SPINAL DISORD. TECH. ) ( United States) 2003, 16/6 (502-507)  
CODEN: JSDTB ISSN: 1536-0652  
DOCUMENT TYPE: Journal ; Article  
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH  
NUMBER OF REFERENCES: 30  
MEDICAL DESCRIPTORS:  
intervertebral disk degeneration--surgery--su; spondylolisthesis --surgery--su; computer assisted tomography; spine surgery; surgical approach; surgical technique...  
...deep vein thrombosis--complication--co; blood vessel injury --complication--co; dura mater; reoperation; surgical equipment; implant ; bone graft; allograft; bone screw; intermethod comparison; human; male; female; major clinical study; aged; adult...

19/3,K/13 (Item 13 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)  
(c) format only 2005 The Dialog Corp. All rts. reserv.  
14754663 PMID: 12709855  
**Posterior lumbar interbody fusion using one diagonal fusion cage with transpedicular screw/rod fixation.**  
Zhao Jie; Hou Tiesheng; Wang Xinwei; Ma Shengzhong  
Orthopedic Surgery Department, Changhai Hospital, 174 Changhai Road, Shanghai 200433, P.R. China.  
European spine journal - official publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society (Germany) Apr 2003, 12 (2): p173-7,

ISSN 0940-6719 Journal Code: 9301980

Publishing Model Print-Electronic

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... using two posterior cages with bilateral facetectomy. Studies also demonstrated that cages placed using a **posterior approach** did not cause the same increase in spinal stiffness seen with pedicle screw instrumentation, and...

... without other forms of fixation. On the other hand, placement of two cages using a **posterior approach** does have the disadvantage of risk to the bilateral nerve roots. We therefore performed a...

... inclusion criteria were grade 1 to 2 lumbar isthmic spondylolisthesis, lumbar degenerative spondylolisthesis, and recurrent **lumbar disc** herniations with instability. Patients had at least 1 year of low back pain and/or...

... nerve root. Reoperation was required in one patient due to migration of pedicle screws. No **implant** fractures or deformities occurred in any of the patients. PLIF using diagonal insertion of a...

File 9:Business & Industry(R) Jul/1994-2005/Jul 05  
(c) 2005 The Gale Group  
File 149:TGG Health&Wellness DB(SM) 1976-2005/Jun W4  
(c) 2005 The Gale Group  
File 148:Gale Group Trade & Industry DB 1976-2005/Jul 05  
(c)2005 The Gale Group  
File 16:Gale Group PROMT(R) 1990-2005/Jul 05  
(c) 2005 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group  
File 369:New Scientist 1994-2005/May W2  
(c) 2005 Reed Business Information Ltd.  
File 370:Science 1996-1999/Jul W3  
(c) 1999 AAAS  
File 441:ESPICOM Pharm&Med DEVICE NEWS 2005/Jun W1  
(c) 2005 ESPICOM Bus.Intell.  
File 98:General Sci Abs/Full-Text 1984-2004/Dec  
(c) 2005 The HW Wilson Co.

Set	Items	Description
S1	2649	(VERTEBRAL OR INTERVERTEBRAL OR SPINAL OR LUMBAR OR INTERSPINOUS) ( ) (DISC? ? OR DISK? ?) OR DIS?ECTOMY
S2	103603	IMPLANT? OR PROSTHES?S OR PROSTHETIC? ?
S3	61343	CUSHION??? OR DAMPENING()MATRIX OR LIQUID()FILLED OR HYDROGEL
S4	927350	SPRING OR SPRINGS OR COIL? ? OR SPONGE OR SPONGES
S5	3930849	SUPPORT? ? OR PLATE OR PLATES
S6	17107	POSTERIOR??
S7	4183929	ACCESS??? OR APPROACH???
S8	156	S6(N)S7
S9	30	S1 AND S8
S10	15	S2:S4 AND S9
S11	11	RD (unique items)
S12	0	S11/2004:2005
S13	11	Sort S11/ALL/PD,A
S14	128	(DISC OR DISK) ( )S2
S15	5	S6 AND S14
S16	5	S15 NOT S10
S17	4	RD (unique items) [not relevant]

13/8/2 (Item 2 from file: 149)

DIALOG(R)File 149:(c) 2005 The Gale Group. All rts. reserv.  
01630770 SUPPLIER NUMBER: 18548952 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**A new era of spinal surgery? FDA panel approves fusion cages - after sharply criticizing new studies. (Orthopaedic and Rehabilitation Devices Panel)**

1996

WORD COUNT: 1365 LINE COUNT: 00119

SPECIAL FEATURES: illustration; diagram

DESCRIPTORS: Spine--Surgery; Spinal fusion--Innovations

13/8/4 (Item 4 from file: 149)

DIALOG(R)File 149:(c) 2005 The Gale Group. All rts. reserv.  
01764597 SUPPLIER NUMBER: 20601095 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Video-assisted thoracoscopic discectomy and fusion. (includes test for continuing education credit)**

1998

WORD COUNT: 4165 LINE COUNT: 00359

SPECIAL FEATURES: photograph; forms; illustration  
DESCRIPTORS: Thoracoscopy--Technique; **Discectomy** --Technique; Spinal  
fusion--Technique

13/8/5 (Item 5 from file: 149)

DIALOG(R)File 149:(c) 2005 The Gale Group. All rts. reserv.  
01807377 SUPPLIER NUMBER: 53268421 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Technique and Patient Care Using Interbody Fusion Technology.**  
1998  
WORD COUNT: 3076 LINE COUNT: 00288  
DESCRIPTORS: Backache--Health aspects; Spine--Surgery

13/8/9 (Item 9 from file: 149)

DIALOG(R)File 149:(c) 2005 The Gale Group. All rts. reserv.  
01995693 SUPPLIER NUMBER: 75246998 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Anterior Lumbar Interbody Fusion.**  
2001  
WORD COUNT: 3508 LINE COUNT: 00293  
DESCRIPTORS: Spinal fusion--Technique; Radiology, Medical--Practice;  
Vertebrae, Lumbar--Surgery  
GEOGRAPHIC CODES/NAMES: 1USA United States

13/8/10 (Item 10 from file: 149)

DIALOG(R)File 149:(c) 2005 The Gale Group. All rts. reserv.  
02082855 SUPPLIER NUMBER: 85916216 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**The role of fusion surgery for low back pain: when conservative therapy  
fails, fusion may provide relief.**  
2002  
WORD COUNT: 3753 LINE COUNT: 00321  
DESCRIPTORS: Backache--Surgery; Spinal fusion--Therapeutic use  
GEOGRAPHIC CODES/NAMES: 1USA United States

13/3,K/1 (Item 1 from file: 149)

DIALOG(R)File 149:TGG Health&Wellness DB(SM)  
(c) 2005 The Gale Group. All rts. reserv.  
01498617 SUPPLIER NUMBER: 16228169 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Adolescent idiopathic scoliosis. (review article)**  
Lonstein, John E.  
The Lancet, v344, n8934, p1407(6)  
Nov 19,  
1994

PUBLICATION FORMAT: Magazine/Journal ISSN: 0099-5355 LANGUAGE: English  
RECORD TYPE: Fulltext; Abstract TARGET AUDIENCE: Professional  
WORD COUNT: 4181 LINE COUNT: 00343  
... girls with idiopathic scoliosis.

Investigators have searched for the primary cause of idiopathic scoliosis in **vertebral discs**, muscles, and cartilage. Low glycosaminoglycan (GAG) levels have been recorded in the apical discs, with ...of electrical stimulation of the muscles on the convexity of the curve (transcutaneous or by **implanted** electrodes) were promising, but subsequent series reviewing patients who had completed treatment showed that electrical...to achieve the best result, an anterior release and fusion is done first, in which **intervertebral discs** are excised, the space being packed with chips of autologous rib bone. This method increases...

...is indicated in the young adolescent, if the triradiate cartilage is open, an anterior and **posterior approach** is indicated. This combined approach ensures a good result with a solid fusion and improved...Acta Orthop Scand 1975; 46: 71. [7] Pedrini VA, Ponsetti IV, Dohrmann SC. Glycosaminoglycans of **intervertebral disc** in idiopathic scoliosis. J Lab Clin Med 1973; 82: 938. [8] Fidler MW, Jowett RL...

13/3,X/3 (Item 3 from file: 149)  
DIALOG(R)File 149:TGG Health&Wellness DB(SM)  
(c) 2005 The Gale Group. All rts. reserv.  
01644857 SUPPLIER NUMBER: 18709297 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Cervical spondylosis: an update.**  
McCormaack, Bruce M.; Weinstein, Phillip R.  
The Western Journal of Medicine, v165, n1-2, p43(9)  
July-August,  
1996  
PUBLICATION FORMAT: Magazine/Journal ISSN: 0093-0415 LANGUAGE: English  
RECORD TYPE: Fulltext; Abstract TARGET AUDIENCE: Professional  
WORD COUNT: 6950 LINE COUNT: 00617  
... and treatment of cervical spondylosis.  
Pathophysiology  
Cervical spondylosis is caused by a degeneration of the  
**intervertebral discs**, which fragment, lose water content, and collapse with normal aging.(20,21) Disc degeneration causes...  
...due to congenital bony anomalies--blocked vertebrae, malformed laminae--that place undue stress on adjacent **intervertebral discs**  
(1,22)  
Cervical spondylosis may result in symptomatic spinal cord compression.(1,20,22) The...become stable.  
Surgical therapy for spondylotic myelopathy may be through either an anterior or a **posterior approach**; several large series have failed to establish the superiority of either procedure (Figure 4).(49...some extent prevent spinal instability.(49,87-89)  
Recent surgical series using both anterior and **posterior approaches** show excellent or good results in about 70% of patients with myelopathy.(37,38,49...  
...are unremitting pain and progressive weakness despite a full trial of nonsurgical management. Anterior and **posterior approaches** have been used to perform root decompression, with equal results.(33,111)  
Foraminotomy, or a **posterior approach**, is preferred for nerve root compression due to facet joint hypertrophy and may be preferred...  
...patency and maximizes the chance for solid bony fusion. Without a graft, collapse at the **discectomy** site can cause prolonged postoperative neck pain and narrow the neural foramen at that level...  
...70% to 80% of patients after surgical treatment of spondylotic radiculopathy using either anterior or **posterior approaches**  
(38,40,42,83) In one study, one or more symptoms recurred in 60% of...  
Smith GW, Robinson RA: The treatment of certain cervical spine disorders by anterior removal of **intervertebral disc** and interbody fusion. J Bone Joint Surg (Am) 1958; 40:607-624  
(14.) Hankinson H, Wilson C: Use of the operating microscope in anterior cervical **discectomy** without fusion. J Neurosurg 1975: 43:452-456  
(15.) Hoff V, Wilson C: Microsurgical approach...  
...38:588-609  
(21.) Brain WR, Knight GC, Bull JWD: Discussion on rupture of the



**intervertebral disc** in the cervical region. Proc R Soc Med 1948;  
41:509-516  
(22.) Clark E...  
...of spinal cord lesions and their relation to the clinical features in  
protrusion of cervical **intervertebral discs** (a report of four cases).  
Brain 1953;76:70-79  
(32.) Ono K, Ota H...Rehabil 1976; 57:12-16  
(56.) Spurling RG, Scovill WB: Lateral rupture of the cervical  
**intervertebral discs** --A common cause of shoulder and arm pain. Surg  
Gynecol Obstet 1944 78:350-358...  
...Schwartz RH. Frank E Blank NK: Preoperative evaluation of cervical  
radiculopathy and myelopathy by surface **coil** MR imaging. AJR 1988;  
(73.) Houser WO, Onofrio BM. Miler GM, Folger NW, Smith PL...  
...JA: The surgical management of cervical spine stenosis, spondylosis and  
myeloradiculopathy by means of the **posterior approach** . Spine 1988;  
13:864-869  
(79.) Whitecloud TS III: Anterior surgery for cervical spondylotic  
myelopathy...  
...61:89-104  
(85.) Epstein J, Janin Y: Management of cervical spondylitic  
myeloradiculopathy by the **posterior approach** , In Bailey RW (Ed): The  
Cervical Spine. Philadelphia, Pa, JB Lippincott, 1983, pp 402-410...1992:  
17:1281-1284  
(96.) Bertalanffy H, Eggert HR: Clinical long-term results of anterior  
**discectomy** without fusion for treatment of cervical radiculopathy and  
myelopathy-A follow-up of 164 cases...  
...of multiple level spondylotic radiculopathy. Spine 1988; 13:774-780  
(112.) Dunsker SB: Anterior cervical **discectomy** with and without  
fusion--An analysis of 81 cases. Clin Neurosurg 1977; 24:516-521  
(113.) Martins AN: Anterior cervical **discectomy** with and without  
interbody bone graft. J Neurosurg 1976, 44:290-295  
(114.) Robertson JT...  
...Clin Neurosurg 1973;20:259-261  
(115.) Rosenorn J, Hansen EB, Rosenorn MA: Anterior cervical  
**discectomy** with and without fusion: A prospective study. J Neurosurg 1983;  
59:252-255  
(116.) Watters WC, Levinthal R: Anterior cervical **discectomy** with  
and without fusion Results, complications, and long-term follow-up. Spine  
1994; 19: 2343...

13/3,K/7 (Item 7 from file: 149)  
DIALOG(R)File 149:TGG Health&Wellness DB(SM)  
(c) 2005 The Gale Group. All rts. reserv.  
01908441 SUPPLIER NUMBER: 62278425 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Spinal implants** .  
CHOTIKUL, LIANA  
RN, 63, 5, 28  
May,  
2000  
PUBLICATION FORMAT: Magazine/Journal ISSN: 0033-7021 LANGUAGE: English  
RECORD TYPE: Fulltext TARGET AUDIENCE: Trade  
WORD COUNT: 2425 LINE COUNT: 00197  
TEXT:

An **implantable** device that's rapidly gaining popularity is changing  
the way we view spinal fusion. Here, we'll walk you through the **implant**

procedure and discuss the nursing care that's needed.

... 1)

Successful fusions have been on the rise, however, since the 1996 approval of an **implantable** fusion device, the threaded titanium cage. Although similar models have been developed since then, we'll focus on the one tested at our hospital--the BALK interbody fusion **implant**. We'll look at how this device got its start, how it's placed, and how to care for the patient who has one.

Horses got the first spinal **implants**

The first spinal **implant** was the brainchild of veterinarian George Bagby. He developed a device to stabilize the cervical...

...and ataxia caused by vertebral compression of the spinal cord. Called the Bagby basket, the **implanted** device carried bony autograft to the disc space, relieved compression of the nerve roots, and...

...complete immobilization of the motion segment--a disc sandwiched between two vertebrae--two cylinders are **implanted** per space. The threads anchor the device to adjacent vertebrae and prevent migration. The packed...

...surgery may be necessary--though this may not occur until many years down the road.

**Implants** : Not for everyone with a back problem

The most common indications for BAK **implant** surgery are degenerative disc disease, spinal stenosis, and grade I spondylolisthesis--slippage of one vertebra...

...Other candidates for the procedure include trauma patients and patients with lumbar instability after laminectomy, **discectomy**, facetectomy, or failed spinal fusion. (3)

There are strict eligibility criteria, however. For example, a...  
...established.

Movement without pain at nearly half the cost

For those who do qualify, spinal **implants** like the BAK have lots to offer. Unlike older fusion techniques, **implant** surgery typically requires a hospital stay of only one to three days. In fact, a...

...bleeding, and an adverse reaction to anesthesia. And, like other types of back surgery, the **implant** procedure carries the risk of spinal cord injury, nerve damage, and a spinal fluid leak. (4) But research shows that, with **implanted** cages like the BAK, most complications can be attributed to surgical technique rather than problems...

...have less pain and lower infection rates than with traditional procedures. (1,4,6)

BAK **implant** surgery: How it's done

Part of the reason BAK fusion is so successful is that **implantable** cages are easier to place than bone graft stabilized by pedicle screws and rods. (1...

...still in clinical trials--like lumbar fusions can be done from either anterior, lateral, or **posterior approaches**.

Most lumbar **implants** are placed using an anterior approach, which involves an abdominal incision. It produces more successful...

...half-inch incision along the iliac crest, where the graft material was harvested.

With a **posterior approach**, look for a spinal incision, midline, at the level of the affected disc space. Since...

...in two to six months, but patients are followed for at least two years.

BAK **implant** surgery, now performed in a growing number of hospitals nationwide, offers patients a less costly...

...orthopedic nursing (2nd ed.). Philadelphia: W. B. Saunders.

KEY WORDS

- \* interbody fusion
- \* spondylolisthesis
- \* titanium cage **implant**
- \* spinal surgery
- \* spinal **implants**

Pathology of the motion segment

Adapting to changes in body position depends on the integrity...

...DESCRIPTORS: **Implants** , Artificial

13/3,K/8 (Item 8 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2005 The Gale Group. All rts. reserv.  
12989288 SUPPLIER NUMBER: 69371628 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Raymedica Launches PDN(R) Device in Korea.**

PR Newswire, NA

Jan 22, 2001

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 555 LINE COUNT: 00048

... a development-stage medical device manufacturer, announced today that it has launched its PDN(R) **Prosthetic Disc Nucleus Device** in Korea. The PDN device is a revolutionary new spinal **implant** for the treatment of low back pain designed as an alternative treatment to spinal fusion...  
...than 100 spinal surgeons from Korea. Dr. Sachs assisted Dr. Sang-ho Lee with the **implantation** of PDN devices in four patients and all operations were telecast live to the surgeons at the meeting. The PDN **implants** were done using the new anterior approach, as well as the traditional **posterior approach**.

The Wooridul Spine Hospital is dedicated to spinal surgery and will serve as a "Center...

...into the Asia/Pacific markets, Raymedica recently signed a distribution agreement with a leading spinal **implant** distributor in Japan. The regulatory approval process has begun and the initial clinical evaluation will begin in the **spring**. The Japanese orthopedic device market is approximately \$1.0 billion, with reimbursement levels among the...

...clearance is obtained. Then, Raymedica trains selected spine surgeons in each country in the PDN **implant** procedure. This controlled launch of the PDN device is designed to optimize clinical results. To...

...unique product that may be appropriate for many patients who would otherwise be treated with **discectomy** or spinal fusion. In the United States, back pain is the second most common reason...

13/3,K/11 (Item 11 from file: 149)  
DIALOG(R)File 149:TGG Health&Wellness DB(SM)  
(c) 2005 The Gale Group. All rts. reserv.  
02196853 SUPPLIER NUMBER: 102227453 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**Surgery for patients with low back pain: degenerative disorders and failed previous surgery; problems include pseudarthrosis, recurrent diskal herniation, and painful scar.**

Mooney, Vert

The Journal of Musculoskeletal Medicine, 20, 5, 217(9)

May,

2003

PUBLICATION FORMAT: Magazine/Journal; Refereed ISSN: 0899-2517

LANGUAGE: English RECORD TYPE: Fulltext TARGET AUDIENCE: Academic;

Professional

WORD COUNT: 5612      LINE COUNT: 00511

... fatigue failure in any construct. The only way of transferring these stresses from the metal **implants** is with bony fusion across the involved levels. Thus, all surgical stabilizations with hardware must...  
...the surgeon's experience, regarding the use of allograft versus autogenous tricortical graft in the **posterior approach** .

Evidence indicates that there is equal success with either graft at the interbody route. (5...

...is called arachnoiditis. The only surgical maneuver currently advocated to control this pain is to **implant** electrical stimulators or morphine pumps into the spinal canal above the scarred area. This is...for interbody lumbar fusions. Presented at: the North American Spine Society meeting; July 1989; Colorado **Springs** , Colo.

(9.) Montaldi S, Fankhauser H, Schnyder B, et al. Computed tomography of the postoperative **intervertebral disk** and lumbar spinal canal: investigation of 25 patients after successful operation for **lumbar disk** herniation. Neurosurgery. 1988;22:1014.1022.

(10.) Burton CV. Full thickness autogenous fat grafts in...  
...stabilization procedures could be avoided by a device that replaces the multiaxial joint of the **intervertebral disk** . The ultimate failure of total joint replacements elsewhere in the body tends to be at the bone-**implant** interface. This approach also applies to the **intervertebral disk** , with its location at the most demanding mechanical stress concentration in the body. Perhaps the solution with regard to disk replacement will involve **implanting** a system with mechanical function similar to that of the nucleus in the disk space...

File 155:MEDLINE(R) 1951-2005/Jul W1

(c) format only 2005 The Dialog Corp.

Set	Items	Description
S1	32288	DISK
S2	7411	'INTERVERTEBRAL DISK' OR DC='A2.165.410.' OR DC='A2.835.23-2.834.432.' OR 'DISK, INTERVERTEBRAL' OR 'DISKECTOMY'
S3	122795	POSTERIOR?
S4	752	S2 AND S3
S5	1267	S2(L)SU [not relevant]
S6	168	S4 AND S5
S7	190012	IMPLANT?
S8	25	S6 AND S7
S9	3	S8/2004:2005
S10	22	S8 NOT S9
S11	22	Sort S10/ALL/PY,A
S12	334209	ACCESS?? OR ACCESSING OR REMOV???
S13	33	S3()S12
S14	0	S2 AND S13
S15	1	S1 AND S13
S16	32	S13 NOT (S8 OR S15)
S17	32	Sort S16/ALL/PY,A

11/9/6

DIALOG(R)File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

12223222 PMID: 9530785

**Stability potential of spinal instrumentations in tumor vertebral body replacement surgery.**

Vahldiek M J; Panjabi M M

Department of Orthopaedics, Medizinische Hochschule Hannover, Germany.

Spine (UNITED STATES) Mar 1 1998, 23 (5) p543-50, ISSN 0362-2436

Journal Code: 7610646

Contract/Grant No.: AR39209-06A2; AR; NIAMS

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

**STUDY DESIGN:** The multidirectional stability potential of anterior, posterior, and combined instrumentations applied at L1-L3 was studied after L2 corpectomy and replacement with a carbon-fiber implant. **OBJECTIVES:** To evaluate the biomechanical characteristics of short-segment anterior, posterior, and combined instrumentations in lumbar spine tumor vertebral body replacement surgery. **SUMMARY OF BACKGROUND DATA:** The biomechanical properties of many different spinal instrumentations have been studied in various spinal injury models. Only a few studies, however, investigate the stabilization methods in spinal tumor vertebral body replacement surgery. **METHODS:** Eight fresh frozen human cadaveric thoracolumbar spine specimens (T12-L4) were prepared for biomechanical testing. Pure moments (2.5 Nm, 5 Nm, and 7.5 Nm) of flexion-extension, left-right axial torsion, and left-right lateral bending were applied to the top vertebra in a flexibility machine, and the motions of the L1 vertebra with respect to L3 were recorded with an optoelectronic motion measurement system after reconditioning. The L2 vertebral body was resected and replaced by a carbon-fiber cage. Different fixation methods were

applied to the L1 and L3 vertebrae. One anterior, two **posterior**, and two combined instrumentations were tested. Load-displacement curves were recorded and neutral zone and range of motion parameters were determined. RESULTS: The anterior instrumentation provided less potential stability than the **posterior** and combined instrumentations in all motion directions. The anterior instrumentation, after vertebral body replacement, showed greater motion than the intact spine, especially in axial torsion (range of motion, 10.3 degrees vs 5.5 degrees; neutral zone, 2.9 degrees vs. 0.7 degrees;  $P < 0.05$ ). **Posterior** instrumentation provided greater rigidity than the anterior instrumentation, especially in flexion-extension (range of motion, 2.1 degrees vs. 12.6 degrees; neutral zone, 0.6 degrees vs. 6.1 degrees;  $P < 0.05$ ). The combined instrumentation provided superior rigidity in all directions compared with all other instrumentations. CONCLUSIONS: **Posterior** and combined instrumentations provided greater rigidity than anterior instrumentation. Anterior instrumentation should not be used alone in vertebral body replacement.

Tags: Female; Male; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, P.H.S.

Descriptors: \*Intervertebral Disk --surgery-- SU ; \*Lumbar Vertebrae --surgery--SU; \*Prostheses and Implants ; \*Spinal Fusion--instrumentation --IS; \*Thoracic Vertebrae--surgery--SU; Aged; Aged, 80 and over; Bone Screws; Carbon; Humans; Lumbar Vertebrae--physiology--PH; Middle Aged; Pliability; Range of Motion, Articular; Thoracic Vertebrae--physiology--PH; Weight-Bearing

CAS Registry No.: 7440-44-0 (Carbon)

Record Date Created: 19980507

Record Date Completed: 19980507

11/9/7

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

12960540 PMID: 10908932

**Segmental stability and compressive strength of posterior lumbar interbody fusion implants .**

Tsantrizos A; Baramki H G; Zeidman S; Steffen T  
Orthopaedic Research Laboratory, Division of Orthopaedic Surgery, McGill University, Montreal, Quebec, Canada.

Spine (UNITED STATES) Aug 1 2000, 25 (15) p1899-907, ISSN 0362-2436  
Journal Code: 7610646

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

STUDY DESIGN: Human cadaveric study on initial segmental stability and compressive strength of **posterior** lumbar interbody fusion **implants** . OBJECTIVES: To compare the initial segmental stability and compressive strength of a **posterior** lumbar interbody fusion construct using a new cortical bone spacer machined from allograft to that of titanium threaded and nonthreaded **posterior** lumbar interbody fusion cages, tested as stand-alone and with supplemental pedicle screw fixation. SUMMARY OF BACKGROUND DATA: Cages were introduced to overcome the limitations of conventional allografts. Radiodense cage materials impede radiographic assessment of the fusion, however, and may cause stress shielding of the

graft. **METHODS:** Multisegmental specimens were tested intact, with **posterior** lumbar interbody fusion **implants** inserted into the L4/L5 interbody space and with supplemental pedicle screw fixation. Three **posterior** lumbar interbody fusion **implant** constructs (Ray Threaded Fusion Cage, Contact Fusion Cage, and PLIF Allograft Spacer) were tested nondestructively in axial rotation, flexion-extension, and lateral bending. The **implant** -specimen constructs then were isolated and compressed to failure. Changes in the neutral zone, range of motion, yield strength, and ultimate compressive strength were analyzed. **RESULTS:** None of the stand-alone **implant** constructs reduced the neutral zone. Supplemental pedicle screw fixation decreased the neutral zone in flexion-extension and lateral bending. Stand-alone **implant** constructs decreased the range of motion in flexion and lateral bending. Differences in the range of motion between stand-alone cage constructs were found in flexion and extension (marginally significant). Supplemental **posterior** fixation further decreased the range of motion in all loading directions with no differences between **implant** constructs. The Contact Fusion Cage and PLIF Allograft Spacer constructs had a higher ultimate compressive strength than the Ray Threaded Fusion Cage. **CONCLUSIONS:** The biomechanical data did not suggest any **implant** construct to behave superiorly either as a stand-alone or with supplemental **posterior** fixation. The PLIF Allograph Spacer is biomechanically equivalent to titanium cages but is devoid of the deficiencies associated with other cage technologies. Therefore, the PLIF Allograft Spacer is a valid alternative to conventional cages.

Tags: Comparative Study

Descriptors: \*Internal Fixators; \* **Intervertebral Disk** --physiology--PH; \*Joint Instability--physiopathology--PP; \*Lumbar Vertebrae--physiology--PH; \*Spinal Fusion--instrumentation--IS; Bone Screws; Cadaver; Compressive Strength--physiology--PH; Equipment Design; Humans; **Intervertebral Disk** --surgery-- **SU** ; Lumbar Vertebrae--surgery--SU; Middle Aged; Models, Biological; Range of Motion, Articular; Rotation; Stress, Mechanical

Record Date Created: 20000831

Record Date Completed: 20000831

11/9/8

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

12887102 PMID: 10828927

**Lumbar interbody fusion using the Brantigan I/F cage for posterior lumbar interbody fusion and the variable pedicle screw placement system: two-year results from a Food and Drug Administration investigational device exemption clinical trial.**

Brantigan J W; Steffee A D; Lewis M L; Quinn L M; Persenaire J M

South Texas Orthopaedic and Spinal Surgery Associates, San Antonio, Texas 78240, USA.

Spine (UNITED STATES) Jun 1 2000, 25 (11) p1437-46, ISSN 0362-2436  
Journal Code: 7610646

Publishing Model Print

Document type: Clinical Trial; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

**STUDY DESIGN:** A carbon fiber-reinforced polymer cage **implant** filled with autologous bone was designed to separate the mechanical and biologic

functions of **posterior** lumbar interbody fusion. OBJECTIVES: To test the safety and efficacy of the carbon cage with pedicle screw fixation in a 2-year prospective study performed at six centers under a protocol approved by the Food and Drug Administration, and to present the data supporting the Food and Drug Administration approved indications. SUMMARY OF BACKGROUND DATA: The success of **posterior** lumbar interbody fusion has been limited by mechanical and biologic deficiencies of the donor bone. Some failures of pedicle screw fixation may be attributable to the absence of adequate load sharing through the anterior column. Combining an interbody fusion device with pedicle screw fixation may address some limitations of **posterior** lumbar interbody fusion or pedicle screw fixation in cases that are more complex mechanically. METHODS: This clinical study of **posterior** lumbar interbody fusion with pedicle screw fixation involved a prospective group of 221 patients. RESULTS: Fusion success was achieved in 176 (98.9%) of 178 patients. In the management of degenerative disc disease in patients with prior failed discectomy surgery, clinical success was achieved in 79 (86%) of 92 patients, and radiographic bony arthrodesis in 91 (100%) of 91 patients. Disc space height, averaging 7.9 mm before surgery, was increased to 12.3 mm at surgery and maintained at 11.7 mm at 2 years. Fusion success was not diminished over multiple fusion levels. These results were significantly better than those reported in prior literature. Although significant surgical complications occurred, those attributable to the **implant** devices occurred less frequently and generally were minor. CONCLUSIONS: The Brantigan I/F Cage for **posterior** lumbar interbody fusion and the Variable Screw Placement System are safe and effective for the management of degenerative disc disease.

Tags: Female; Male; Research Support, Non-U.S. Gov't

Descriptors: \*Bone Screws; \*Intervertebral Disk Displacement--surgery--SU; \*Spinal Fusion--instrumentation--IS; \*Spinal Fusion--methods--MT; Adult; Aged; Carbon; Humans; **Intervertebral Disk** --pathology--PA; **Intervertebral Disk** --surgery--SU; Intervertebral Disk Displacement--pathology--PA; Intervertebral Disk Displacement--radiography--RA; Lumbar Vertebrae--pathology--PA; Lumbar Vertebrae--radiography--RA; Lumbar Vertebrae--surgery--SU; Materials Testing; Middle Aged; Postoperative Complications; Prospective Studies; Tomography, X-Ray Computed; Treatment Outcome

CAS Registry No.: 7440-44-0 (Carbon)

Record Date Created: 20000717

Record Date Completed: 20000717

11/9/11

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

13617137 PMID: 11242387

**Paired cylindrical interbody cage fit and facetectomy in posterior lumbar interbody fusion in an Asian population.**

Wong H K; Goh J C; Goh P S

Department of Orthopaedic Surgery, National University of Singapore, Republic of Singapore. wonghk@nus.edu.sg

Spine (United States) Mar 1 2001, 26 (5) p572-7, ISSN 0362-2436

Journal Code: 7610646

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM



Record type: MEDLINE; Completed  
Subfile: INDEX MEDICUS

**STUDY DESIGN:** The intervertebral disc heights and interfacetal distances of normal lower lumbar segments were measured from MRI scans of 150 male subjects. **OBJECTIVES:** To investigate the probabilities of paired cylindrical interbody cage placement across the facet joints of the lower lumbar spine in an Asian population with respect to the spinal segmental level, facetectomy, and the restoration of normal intervertebral height. **SUMMARY OF BACKGROUND DATA:** Cylindrical interbody cage devices often require extensive facetectomy for insertion through a posterior approach in a posterior lumbar interbody fusion (PLIF) procedure. This is because the transverse dimension of a pair of cages could far exceed the interfacetal interval of the lumbar segment. **METHODS:** One hundred and fifty MRI scans of the lumbosacral spine of male patients between the ages of 18 and 55 years undergoing investigation for low back pain were collected for this study. The interfacetal distances and intervertebral disc heights were measured from transverse and sagittal images, respectively, at L3/L4, L4/L5 and L5/S1. Degenerated discs were not measured. The inner, mid, and outer interfacetal distances were compared with the dimensions of paired cages of 13, 15, and 17 mm in diameter to obtain the proportion of lumbar segments at a particular spinal level that would accommodate paired cages of different diameters and under conditions of varying degrees of facetectomy. **RESULTS:** Without facetectomy, there was no lumbar segment that could accommodate paired cages as well as restore intervertebral height. With hemi-facetectomy, very few segments at L3/L4 and L4/L5 could fit paired cages. At L5/S1, fewer than 9% of segments could fit paired cages and restore intervertebral heights. The proportion of segments that could accommodate paired cages increased with near-total facetectomy: 25% of L5/S1 segments could accommodate 15-mm cages with restoration of intervertebral heights. **CONCLUSIONS:** Paired cylindrical cage installation in the majority of patients is likely to require near-total or total facetectomy, with implications for potential segmental instability. Among the three lumbar segments studied, L5/S1 had the highest proportion of segments that could accommodate paired cages and at the same time restore intervertebral height.

Tags: Comparative Study; Male; Research Support, Non-U.S. Gov't

Descriptors: \*Intervertebral Disk --surgery-- SU ; \*Low Back Pain --epidemiology--EP; \*Lumbar Vertebrae--surgery--SU; \*Prosthesis Implantation --instrumentation--IS; \*Spinal Fusion--instrumentation--IS; Adolescent; Adult; Asia--epidemiology--EP; Equipment Design; Humans; 1 Intervertebral Disk --pathology--PA; Low Back Pain--diagnosis--DI; Low Back Pain--surgery--SU; Lumbar Vertebrae--pathology--PA; Magnetic Resonance Imaging; Middle Aged; Observer Variation; Patient Satisfaction; Reproducibility of Results

Record Date Created: 20010312

Record Date Completed: 20010517

11/9/21

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

14665260 PMID: 12592949

**Results of lumbar disk prosthesis after a follow-up period of 48 months.**

Caspi Israel; Levinkopf Moshe; Nerubay Jacobo

Spine Deformity Unit, Department of Orthopedics, Sheba Medical Center, Tel Hashomer, Israel. caspid@internet-zahav.net

Israel Medical Association journal - IMAJ (Israel) Jan 2003, 5 (1)  
p9-11, ISSN 1565-1088 Journal Code: 100930740

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

BACKGROUND: Damage to the intervertebral disk is usually corrected by means of a prosthesis. OBJECTIVES: To report the outcome of the artificial lumbar disk replacement with the Charite SB III disk prosthesis in 20 patients after a 48 month follow-up. METHODS: The 20 patients were evaluated clinically and radiographically during this period. Preoperative diagnosis included degenerative diskopathy in 17 patients and failed **posterior** conventional **diskectomy** in 3. The prosthesis was **implanted** at one level in 17 patients and bi-level **implantation** was performed in the other 3 patients. RESULTS: Eighty percent of patients reported satisfactory to very good results. Poor results were reported by four patients, one of whom underwent posterolateral fusion and another is waiting for the same operation. There were two dislocations of the prosthesis followed by immediate revision surgery. CONCLUSIONS: Contraindications for surgery appear to be the principal cause of failure rather than the prosthesis itself.

Tags: Female; Male

Descriptors: **\*Intervertebral Disk --surgery-- SU ; \*Prosthesis Implantation ; \*Spinal Diseases--surgery--SU; Adult; Follow-Up Studies; Humans; Middle Aged; Patient Satisfaction; Postoperative Complications; Prosthesis Design; Prosthesis Implantation --adverse effects--AE; Reoperation**

Record Date Created: 20030220

Record Date Completed: 20030303

11/9/22

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

14636982 PMID: 12544951

**The effects of an interspinous implant on intervertebral disc pressures.**

Swanson Kyle E; Lindsey Derek P; Hsu Ken Y; Zucherman James F; Yerby Scott A

San Francisco Orthopaedic Residency Program, San Francisco, California, USA.

Spine (United States) Jan 1 2003, 28 (1) p26-32, ISSN 1528-1159  
Journal Code: 7610646

Publishing Model Print; Comment in Spine. 2003 Aug 15;28(16) 1906-7; author reply 1907-8; Comment in PMID 12923484

Document type: Evaluation Studies; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

STUDY DESIGN: Measurement of intradiscal pressure was performed after placement of an interspinous **implant** in a cadaver model. OBJECTIVE: To understand the likelihood of accelerated adjacent-level disc degeneration as a result of the **implant**. SUMMARY OF BACKGROUND DATA: An interspinous

**implant** has been developed to treat lumbar neurogenic claudication secondary to spinal stenosis that places the stenotic segment in slight flexion and prevents extension. Previous biomechanical studies demonstrated that fusing one level may significantly increase the intradiscal pressures at adjacent levels. Moreover, clinical studies have reported an increased incidence of adjacent-level degeneration after lumbar spinal fusion. METHODS: Eight cadaver lumbar specimens (L2-L5) were loaded in flexion, neutral, and extension. A pressure transducer measured intradiscal pressure and annular stresses during each of the three positions at each of the three disc levels. An appropriately sized **implant** was placed at L3-L4, and the pressure measurements were repeated. RESULTS: The pressures at the adjacent discs were not significantly affected by the interspinous **implant** insertion. There was a significant decrease in intradiscal pressure at the L3-L4 disc in the **posterior** annulus and nucleus in the neutral and extended positions. CONCLUSIONS: The **implant** does not significantly change the intradiscal pressures at the adjacent levels, yet it significantly unloads the intervertebral disc at the instrumented level in the neutral and extended positions. On the basis of the current findings, it does not appear that the **implant** causes accelerated disc degeneration at the adjacent levels.

Descriptors: \***Implant** s, Experimental; \* **Intervertebral** Disk --physiology--PH; \* **Intervertebral** Disk --surgery-- SU ; \*Materials Testing--statistics and numerical data--SN; \*Spine--surgery--SU; Aged; Aged, 80 and over; Biomechanics; Cadaver; Humans; **Implants** , Experimental --standards--ST; **Implants** , Experimental--statistics and numerical data --SN; Intervertebral Disk Displacement--prevention and control--PC; Lumbosacral Region; Materials Testing--methods--MT; Middle Aged; Pressure; Stress, Mechanical; Transducers, Pressure

Record Date Created: 20030124

Record Date Completed: 20030205

15/7,K/1

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

08126848 PMID: 3444486

[Brown-Sequard syndrome caused by foramen and calcified disk herniation, responsible for direct compression of Adamkiewicz's artery]

Syndrome de Brown-Sequard par hernie discale foraminale et calcifiee, responsable d'une compression directe de l'artere d'Adamkiewicz.

Mansour H; Hammoud F; Vlahovitch B

CHU Gui de Chauliac, Neurochirurgie A, Montpellier.

Neuro-Chirurgie (FRANCE) 1987, 33 (6) p478-81, ISSN 0028-3770

Journal Code: 0401057

Publishing Model Print

Document type: Case Reports; Journal Article ; English Abstract

Languages: FRENCH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

The thoracic discal hernia is a rare affection whose prognosis has been transformed by the present diagnostic means and the technical progress of surgery. A case history has been reported of a thoracic discal hernia, T9-T10, with Brown-Sequard Syndrome and vertebral CT Scanning showed a left lateral localization. A **posterior** access remains indicated in lateral localization of those hernias, and it confirms clinical and neuroradiological findings showing a direct compression of the Adamkiewicz

artery in the intervertebral foramen.

Record Date Created: 19880428

Record Date Completed: 19880428

Descriptors: \*Arterial Occlusive Diseases--etiology--ET; \*Calcinosis  
--complications--CO; \*Intervertebral Disk Displacement--complications--CO  
; \*Spinal Cord--blood supply--BS; \*Spinal Cord Diseases--etiology--ET;  
Constriction, Pathologic--etiology--ET; Humans; Intervertebral Disk  
Displacement--radiography--RA; Intervertebral Disk Displacement  
--surgery--SU; Middle Aged; Syndrome; Thoracic Vertebrae--radiography--RA

17/9/9

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

09610837 PMID: 1754194

[Possibilities of reducing the duration of the treatment of patients with  
tuberculous spondylitis]

O vozmozhnosti sokrashcheniia srokov lecheniia bol'nykh tuberkuleznym  
spondilitom.

Usmanov I V

Ortopediia travmatologiya i protezirovaniye (USSR) May 1991, (5)  
p20-3, ISSN 0030-5987 Journal Code: 0376411

Publishing Model Print

Document type: Journal Article ; English Abstract

Languages: RUSSIAN

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

In the article are described the results of operative treatment of 185  
patients with tuberculous spondylitis. In order to restore stability there  
was carried out posterior spondylidesis after Genle with removal of foci by  
means of posterior access in 70 patients. 115 patients were subjected  
to anterolateral spondylidesis, 55 of them--by generally accepted method  
and 60--with creation of trapezoid lock between the body of a vertebra and  
transplants. In this group of patients was used removable jacket made of  
polyethylene before the patient's elevation. In this case the term of the  
stationary treatment of the III group patients was reduced by 2 times as  
compared with the I group and by 22--I day as compared with the 2 group.  
Long-term results were studied from 6 months to 7 years. In the first group  
there were excellent results in 67%, good in 20% and bad in 13% of cases.  
In the patients of the 2 and 3 group there were excellent results in 96%,  
good in 3.4% and bad in 0.6% of cases, when there was observed resolution  
of transplant with 1 patient of the 2 group.

Tags: Female; Male

Descriptors: \*Bone Transplantation--methods--MT; \*Joint Instability  
--surgery--SU; \*Lumbar Vertebrae--surgery--SU; \*Spinal Fusion--methods--MT;  
\*Spondylitis--surgery--SU; \*Thoracic Vertebrae--surgery--SU; \*Tuberculosis,  
Spinal--surgery--SU; Adolescent; Adult; Aged; Early Ambulation; Humans;  
Joint Instability--etiology--ET; Joint Instability--rehabilitation--RH;  
Length of Stay; Middle Aged; Postoperative Care; Spinal Fusion  
--rehabilitation--RH; Spondylitis--complications--CO; Spondylitis  
--rehabilitation--RH; Tuberculosis, Spinal--complications--CO; Tuberculosis,  
Spinal--rehabilitation--RH

Record Date Created: 19920127

Record Date Completed: 19920127

17/9/15

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

11069165 PMID: 7641545

**The sitting position in posterior access to the cervical spine for the treatment of neoplasm.**

De Iure F; Boriani S; Biagini R; Campanacci L; Di Fiore M; Lari S; Bandiera S

I Clinica Ortopedica dell'Universita di Bologna.

La Chirurgia degli organi di movimento (ITALY) Jan-Mar 1995, 80 (1) p77-84, ISSN 0009-4749 Journal Code: 0372573

Publishing Model Print

Document type: Case Reports; Journal Article

Languages: ENGLISH, ITALIAN

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

The authors evaluate the **posterior** approach to the cervical spine with the patient in a sitting position for the surgical treatment of neoplasms of the vertebral arch. Advantages and risks, particularly those related to anesthesia, are examined. Two cases in which the sitting position was advantageous are reported.

Tags: Female; Male

Descriptors: \*Bone Cysts, Aneurysmal--surgery--SU; \*Cervical Vertebrae --surgery--SU; \*Chordoma--surgery--SU; \*Posture; \*Spinal Neoplasms--surgery--SU; Aged; Anesthesia; Bone Cysts, Aneurysmal--radiography--RA; Child; Chordoma--radiography--RA; Follow-Up Studies; Humans; Postoperative Complications--etiology--ET; Risk Factors; Spinal Neoplasms--radiography--RA; Time Factors; Tomography, X-Ray Computed

Record Date Created: 19950915

Record Date Completed: 19950915

17/9/19

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

13536965 PMID: 10506368

**[Biomechanical and clinical aspects of spondylodesis of the lower cervical spine. Methods and implants]**

Biomechanik und Klinik der Spondylodese an der unteren HWS. Technik und Implantate.

Ulrich C; Nothwang J

Unfallchirurgische Klinik, Klinik am Eichert, Goppingen.

Der Orthopade (GERMANY) Aug 1999, 28 (8) p637-50, ISSN 0085-4530

Journal Code: 0331266

Publishing Model Print

Document type: Journal Article; Review ; English Abstract

Languages: GERMAN

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

The break with the demand for maximum rigidity of **implant** fixation of a traumatized unstable lower cervical spine is based on analysis and implementation of scientific and clinical data on the biomechanics of the native, the unstable and the **implant**-fixed spinal column. In view of these

facts, recommendations for stabilization of the lower cervical spine can presently be formulated as follows: The surgical procedure is to bring about decompression, restoration of form and stability. The anterior approach should be the primary and preferred one. With regard to surgical and positioning technique, this **access** clearly involves less problems than the **posterior** approach; if required, unrestricted additional cord decompression can take place; **implant** fixation is technically simple: and the awareness of instability and type of **implant** permits functional therapy, also and above all for the paraplegic patient. For traumatic conditions, **posterior** methods are reserved for exceptional indications, and being single procedures, they require the anterior column to be intact and a multisegmental procedure. They are therefore less recommendable for traumata but rather suitable for degenerative, rheumatoid or tumorous instabilities. The cerclage wire technique depends on intact, osseous **posterior** elements, while after laminectomy only screwed **implants** can secure safe stability. This disadvantage of the **posterior access** for the proprioception of the cervical muscles and the subjective well-being of the patient are known and to be taken into account. Combined techniques are indicated for highly unstable or particularly complex injuries. On the cervicothoracic junction or in cases of Bechterew's disease, the decision is justifiably made in favor of the technique, which can be performed as one-stage or two-stage operation. Whenever possible, selection of the **implant** should take into account the foreseeable developments in diagnostic procedures; and therefore, with a view to follow-up examinations required later and to modern imaging techniques, the **implant** chosen should be made of titanium. (74 Refs.)

Tags: Female

Descriptors: \*Cervical Vertebrae--injuries--IN; \*Spinal Injuries--surgery--SU; Biomechanics; Bone Nails; Bone Screws; Cervical Vertebrae--surgery--SU; Embryo - **Implantation**; Humans; Joint Instability; Prostheses and **Implants**; Spinal Fusion--methods--MT

Record Date Created: 19991013

Record Date Completed: 19991013

17/9/20

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

13220741 PMID: 11569357

**The use of the carbon-fiber reinforced modular implant for the reconstruction of the anterior column of the spine. A clinical and experimental study conducted on 42 cases.**

Boriani S; Bandiera S; Biagini R; De Iure F; Giunti A

Divisione di Ortopedia e Traumatologia, Ospedale Maggiore, Bologna, Italia.

La Chirurgia degli organi di movimento (Italy) Oct-Dec 2000, 85 (4)

p309-35, ISSN 0009-4749 Journal Code: 0372573

Publishing Model Print

Document type: Clinical Trial; Journal Article

Languages: ENGLISH, ITALIAN

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

The conservative treatment of neoplasms of the locomotor apparatus means the production of bone defects that may be filled with prostheses, bone grafts, systems of osteosynthesis. In the vertebral column, reconstruction

of the resected elements--in the case of total vertebrectomy--requires the combination of anterior and **posterior implants**. It is the purpose of this study to analyze a group of 42 patients who, after accurate and uniform oncological (Enneking) and surgical (Weinstein-Boriani-Biagini) staging, were submitted to excision of one or more vertebral bodies for the treatment of neoplastic pathology, with reconstruction by prosthetic carbon fiber modular **implant** in order to obtain immediate stability, and to stimulate solid intervertebral fusion by bone grafts introduced inside the prosthesis. Thirty of the 42 patients presented with primary malignant tumor, 3 with benign tumor, 6 with solitary metastases, and 3 with plasmacytoma. In 32 cases, en bloc resection of the vertebral body was carried out (vertebrectomy) with combined anterior and **posterior access** in 29 patients (69.0%), and by **posterior** approach alone in 3 cases (7.1%). Ten intralesional corporectomies were carried out, 8 by anterior approach, 2 by **posterior** approach. The carbon prosthesis was filled with cortical and cancellous bone grafts in 38 cases. At a mean clinical and instrumental follow-up obtained 26 months after surgery for all of the patients, the use of a carbon prosthesis did not cause short- or long-term mechanical complications. The results of our study tend to affirm that the use of a carbon fiber modular **implant** may fill any loss of bone substance of the vertebral column, that it allows for immediate weight-bearing, and that it favors bone fusion. Some particular features of the carbon prosthesis favorably adapt to the surgical method of vertebrectomy: 1. The various components of the prosthesis may adapt to any type of bone resection of the vertebral body, even in unexpected situations; 2. Connection to **posterior** instrumentation in total vertebrectomies avoids the use of an anterior plate, thus reducing the time required for reconstruction of the anterior column, eliminating necessary surgical procedures in the segmental vascular structures. Finally, the radiolucency of the prosthesis allows for an easy evaluation of the formation of bone within and around the **implant** up to definitive anterior fusion and, of no less importance, early diagnosis of any local recurrence.

Tags: Female; Male

Descriptors: \*Carbon; \*Osteotomy; \*Prostheses and **Implants**; \*Spinal Neoplasms--surgery--SU; Adolescent; Adult; Aged; Child; Follow-Up Studies; Humans; Middle Aged; Prosthesis Design; Reconstructive Surgical Procedures; Time Factors

CAS Registry No.: 0 (carbon fiber); 7440-44-0 (Carbon)

Record Date Created: 20010924

Record Date Completed: 20020225

17/9/22

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

13699904 PMID: 11345643

**Internal fixation on the lower cervical spine--biomechanics and clinical practice of procedures and implants.**

Ulrich C; Arand M; Nothwang J

Trauma Surgery Unit, Klinik am Eichert, Postfach 660, 73006 Goppingen, Germany. christoph.ulrich@kae.de

European spine journal - official publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society (Germany) Apr 2001, 10 (2) p88-100, ISSN 0940-6719 Journal Code: 9301980

Publishing Model Print

Document type: Journal Article; Review; Review, Tutorial  
Languages: ENGLISH  
Main Citation Owner: NLM  
Record type: MEDLINE; Completed  
Subfile: INDEX MEDICUS

The decision to opt for a particular internal fixation procedure of a traumatized unstable lower cervical spine should be based on analysis and implementation of scientific and clinical data on the biomechanics of the intact, the unstable and the **implant**-fixed spine. The following recommendations for surgical stabilization of the lower cervical spine seem, therefore, to be justified. Firstly, the surgical procedure should be to bring about decompression, realignment, and stability. Secondly, the anterior approach should be the primary and preferred one. With regard to surgical and positioning technique, this **access** clearly involves fewer problems than the **posterior** approach; if required, unrestricted additional cord decompression can take place; **implant** fixation is technically simple, and the fusion is under direct compression, thus allowing optimal fusion healing. The awareness of instability and type of **implant** permits functional therapy, above all for the paraplegic patient. Thirdly, for traumatic conditions, **posterior** methods should be reserved for exceptional indications. The restriction to this approach is that the anterior column must be intact and a multi-segmental fixation must be used. **Posterior** fixation seems, therefore, to be more appropriate for degenerative, rheumatoid or tumorous instabilities than for traumatic instabilities. The cerclage wire technique depends on intact osseous **posterior** elements, while after laminectomy only **implants** fixed with screws can create safe stability. The disadvantages of the **posterior access** for the proprioception of the cervical muscles and the subjective symptoms of the patient are known and must be taken into account. Fourthly, combined techniques are indicated for highly unstable or particularly complex injuries. On the cervicothoracic junction, or in cases of Bechterew's disease, the decision is justifiably made in favor of this technique, which can be performed as a one-stage or two-stage operation. Finally, whenever possible, selection of the **implant** should take into account the foreseeable developments in diagnostic procedures, and therefore, in view of the modern imaging techniques likely to be used in any follow-up examinations required later, the **implant** chosen should be made of titanium. (72 Refs.)

Descriptors: \*Cervical Vertebrae--injuries--IN; \*Cervical Vertebrae--surgery--SU; \*Internal Fixators; \*Wounds and Injuries--surgery--SU; Biomechanics; Humans; Joint Instability--etiology--ET; Joint Instability--surgery--SU; Orthopedics--methods--MT; Wounds and Injuries--complications--CO

Record Date Created: 20010510

Record Date Completed: 20010913

17/9/23

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

14492129 PMID: 12436010

**Painful osteolytic metastasis of the atlas: treatment with percutaneous vertebroplasty.**

Wetzel Stephan G; Martin Jean-Baptiste; Somon Thierry; Wilhelm Kai; Rufenacht Daniel A

Department of Radiology at the University Hospital of Geneva, Geneva, Switzerland. stephanwetzel@yahoo.de



Spine (United States) Nov 15 2002, 27 (22) pE493-5, ISSN 1528-1159  
Journal Code: 7610646

Publishing Model Print

Document type: Case Reports; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

STUDY DESIGN: Technical note. OBJECTIVE: To describe a technique for performing percutaneous vertebroplasty of C1 for treatment of osteolytic metastatic disease involving the lateral portions of the atlas in which precautions are taken to protect the vertebrobasilar arterial supply and a **posterior access** route is used for cement delivery. SUMMARY OF BACKGROUND DATA: Percutaneous vertebroplasty (PVP) has proved to be efficient for the treatment of painful osteolytic vertebral disease. Good clinical experience with this technique suggested its extension to stabilize a painful osteolytic lesion of the atlas. METHODS: A patient with known parotid cancer presented with neck pain refractory to conservative treatment. On computed tomography, osteolytic destruction of the atlas that mainly involved the right lateral mass and surrounded the vertebral artery was found. On digital subtraction angiography, the lesion was shown to be highly vascularized and supplied mainly by direct branches of the ipsilateral vertebral artery. To avoid the risk of cement reflux from the tumor vascular bed to the involved vertebral artery, coil occlusion of the involved V3 segment was performed before vertebroplasty. Percutaneous vertebroplasty was then carried out using a percutaneous posteroanterior direction **access** route. RESULTS: Satisfactory filling of the osteolytic lesion with cement was achieved radiologically. Three days after the intervention and at a 9-month follow-up examination, the patient was free of pain. CONCLUSIONS: Vertebroplasty used to treat an osteolytic lesion of the atlas involving the lateral mass was performed by a **posterior** percutaneous approach. To prevent vertebrobasilar embolism, the involved vertebral artery was occluded before polymer injection.

Tags: Male

Descriptors: \*Atlas--surgery--SU; \*Carcinoma--complications--CO;  
\*Osteolysis--etiology--ET; \*Parotid Neoplasms--complications--CO; \*Spinal Neoplasms--surgery--SU; Aged; Angiography, Digital Subtraction; Atlas --pathology--PA; Atlas--radiography--RA; Humans; Neck Pain--etiology--ET; Osteolysis--diagnosis--DI; Osteolysis--surgery--SU; Spinal Neoplasms --diagnosis--DI; Spinal Neoplasms--secondary--SC; Surgical Procedures, Minimally Invasive; Tomography, X-Ray Computed; Treatment Outcome

Record Date Created: 20021118

Record Date Completed: 20030110

17/9/28

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

14755833 PMID: 12710261

[Evaluation of the capacities of neurophysiological intraoperative monitoring in reconstructive surgery on the vertebral column]

Otsenka vozmozhnostei neirofiziologicheskogo intraoperatsionnogo monitoringa pri rekonstruktivno-vosstanovitel'nykh operatsiiakh na pozvonochnike.

Ryzhova O E; Tikhodeev S A; Vishnevskii A A; Zhulev S N; Beliaikov N A

Zhurnal voprosy neirokhirurgii imeni N. N. Burdenko (Russia) Jan-Mar

2003, (1) p27-31; discussion 31-2, ISSN 0042-8817 Journal Code:  
7809757

Publishing Model Print

Document type: Evaluation Studies; Journal Article ; English Abstract

Languages: RUSSIAN

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

AIM: To evaluate the capacities of neurosurgical intraoperative monitoring of somatosensory evoked potentials (SSEP) in reconstructive operations on the vertebral column. MATERIALS AND METHODS: The Center of Spinal Surgery examined 30 patients treated in February to July 2001. According to the diagnosis, the distribution was as follows: degenerative diseases of the vertebral column (80%), its tumors (10%), injury (7%), and inflammatory diseases (3%). Of them, 13 (43.3%) patients underwent anterolateral decompression of the dural sac of roots, 17 (56.7%) had traditional decompression of the dural sac and roots from the **posterior access**. The study was carried out on an 8-channel electrophysiological Viking-IV system (Nicolet, USA). Intraoperative SSEP monitoring was made by the routine procedure. The amplitude and latent time of subcortical peaks (P31) were determined at surgery. Intraoperative SSEPs were classified as defined with the American Electroencephalographic Society. The changes in the basic parameters of SSEP were also divided into transient (under 30 minutes) and permanent (above 30 minutes). RESULTS: True positive responses (significant changes in intraoperative SSEPs and the presence of postoperative neurological disorders) were 3.3% (1 patient); false positive ones (significant changes in intraoperative SSEPs without postoperative neurological disorders) were 23.3% (7 patients). False negative responses (normal intraoperative SSEPs and the presence of postoperative neurological disorders) were absent. The findings indicate that new postoperative neurological disorders should not be expected in patients with the clinical picture of mild neurological disorders if they have transient changes in the basic parameters of SSEPs that last at least 30 minutes. At the same time a risk group includes patients with severe neurological disorders since in these patients, compensatory capacities are primarily decreased and intraoperative exposures may result in early spinal circulatory decompensation. More frequent (every 10 minutes) recording of intraoperative SSEPs is also recommended for this group of patients is complicated surgical manipulations. CONCLUSIONS: 1. Neurophysiological intraoperative monitoring yields additional information for surgeons during an operation. 2. During intraoperative monitoring of SSEPs, it is necessary to assess any changes in the latter as true and to immediately find possible causes of these changes. 3. In patients with revealed spondylogenic spinal circulatory disorders and severe neurological disorders, even short-term changes in SSEPs should be assessed with particular carefulness before surgery.

Descriptors: \*Monitoring, Intraoperative--methods--MT; \*Neurosurgical Procedures; \*Reconstructive Surgical Procedures; \*Spinal Diseases--surgery--SU; \*Spine--surgery--SU; Adolescent; Adult; Evoked Potentials, Somatosensory; Humans; Middle Aged; Monitoring, Intraoperative--instrumentation--IS; Neurosurgical Procedures--adverse effects--AE; Postoperative Complications--etiology--ET; Postoperative Complications--prevention and control--PC; Predictive Value of Tests; Reconstructive Surgical Procedures--adverse effects--AE; Spinal Diseases--complications--CO; Spinal Diseases--physiopathology--PP

Record Date Created: 20030424

Record Date Completed: 20030710

17/9/29

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

14637211 PMID: 12546359

**Comparison of anterior and posterior surgical approaches in the treatment of ventral spinal hemangioblastomas in patients with von Hippel-Lindau disease.**

Pluta Ryszard M; Iuliano Brian; DeVroom Hetty L; Nguyen Tung; Oldfield Edward H

Surgical Neurology Branch, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, Maryland 20892, USA.

Journal of neurosurgery (United States) Jan 2003, 98 (1) p117-24,  
ISSN 0022-3085 Journal Code: 0253357

Publishing Model Print

Document type: Case Reports; Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: AIM; INDEX MEDICUS

OBJECT: Von Hippel-Lindau (VHL) disease is an autosomal-dominant neoplastic syndrome with manifestations in multiple organs, which is evoked by the deletion or mutation of a tumor suppressor gene on chromosome 3p25. Spinal hemangioblastomas (40% of VHL disease-associated lesions of the central nervous system) arise predominantly in the **posterior** aspect of the spinal cord and are often associated with an intraspinal cyst. Rarely, the tumor develops in the anterior aspect of the spinal cord. Ventral spinal hemangioblastomas are a surgical challenge because of difficult **access** and because vessels feeding the tumor originate from the anterior spinal artery. The goal of this study was to clarify whether an anterior or **posterior** surgical approach is better for management of hemangioblastomas of the ventral spinal cord. METHOD:.. The authors performed a retrospective analysis of clinical outcomes and findings on magnetic resonance (MR) imaging studies in eight patients (two women and six men with a mean age of 34 +/- 15 years) who underwent resection of ventral spinal hemangioblastomas (nine tumors: five cervical and four thoracic). Two surgical approaches were used to resect these tumors. A **posterior** approach was selected to treat five patients (laminectomy and **posterior** myelotomy in four patients and the posterolateral approach in one patient); an anterior approach (corpectomy and arthrodesis) was selected to treat the remaining three patients. Immediately after surgery, the ability to ambulate remained unchanged in patients in whom an anterior approach had been performed, but deteriorated significantly in patients in whom a **posterior** approach had been used, because of motor weakness (four of five patients) and/or proprioceptive sensory loss (three of five patients). This difference in ambulation, despite significant improvements over time among patients in the **posterior access** group, remained significant 6 months after surgery. In all cases, MR images revealed complete resection of the tumor and in five patients significant or complete resolution of the intramedullary cyst was demonstrated (present in six of eight patients). CONCLUSIONS: The outcomes of these eight patients with hemangioblastomas of the ventral spinal cord indicate that both immediate and long-term results are better when an anterior approach is selected for resection.

Tags: Comparative Study; Female; Male

Descriptors: \*Anterior Horn Cells--surgery--SU; \*Hemangioblastoma  
--etiology--ET; \*Hemangioblastoma--surgery--SU; \*Hippel-Lindau Disease  
--complications--CO; \*Outcome Assessment (Health Care); \*Spinal Cord  
Neoplasms--etiology--ET; \*Spinal Cord Neoplasms--surgery--SU; Adult;  
Anterior Horn Cells--pathology--PA; Anterior Horn Cells--physiopathology  
--PP; Follow-Up Studies; Hemangioblastoma--physiopathology--PP;  
Hippel-Lindau Disease--pathology--PA; Hippel-Lindau Disease--physiopatholo  
gy--PP; Humans; Magnetic Resonance Imaging; Middle Aged; Recovery of  
Function--physiology--PH; Retrospective Studies; Severity of Illness Index;  
Spinal Cord Neoplasms--physiopathology--PP; Time Factors  
Record Date Created: 20030127  
Record Date Completed: 20030212

17/9/31

DIALOG(R) File 155:MEDLINE(R)

(c) format only 2005 The Dialog Corp. All rts. reserv.

11273518 PMID: 8665810

[Neurologic complications of surgery of the spine in children]

Complications neurologiques de la chirurgie du rachis chez l'enfant.

Carlioz H; Ouaknine M

Hopital Trousseau, Orthopedie et chirurgie reparatrice de l'enfant,  
Paris.

Chirurgie; memoires de l'Academie de chirurgie (FRANCE) 120 (11)  
p26-30, ISSN 0001-4001 Journal Code: 0236600

Publishing Model Print

Document type: Case Reports; Journal Article ; English Abstract

Languages: FRENCH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Subfile: INDEX MEDICUS

Neurological deficiency can occur during or after spinal surgery. The most severe complications are seen after instrumental correction for scoliosis or kyphosis. Regression of paraplegia, paraparesia and Brown-Sequard syndrome is never a certainty and usually incomplete. Preoperative manoeuvres and evoked potentials do not provide absolute security and metal instrumentation should always be used prudently. The main risk factors are vertebral malformation, major kyphosis, preoperative signs of neurological deficit, excessive correction and double anterior and **posterior access**. Finally, the canal is poorly vascularized from T4 to T8 or T9 which can raise further problems. Cordal deficiency during or following almost always requires removal of the metal **implant**, and exploration of the canal possibly with MRI. Injury include direct contusion of the spinal cord, devascularization and compressive haematomas. The frequency of neurological complications is currently about 1% and only extreme prudence and knowledge of causes can reduce this rate.

Tags: Female; Male

Descriptors: \*Kyphosis--surgery--SU; \*Paraplegia--etiology--ET; \*Scoliosi  
s--surgery--SU; \*Spinal Fusion--adverse effects--AE; Adolescent; Child;  
Humans; Intraoperative Complications; Kyphosis--congenital--CN; Prognosis;  
Reoperation; Risk Factors; Scoliosis--congenital--CN

Record Date Created: 19960806

Record Date Completed: 19960806

File 9:Business & Industry(R) Jul/1994-2005/Jul 05  
 (c) 2005 The Gale Group  
 File 149:TGG Health&Wellness DB(SM) 1976-2005/Jun W4  
 (c) 2005 The Gale Group  
 File 16:Gale Group PROMT(R) 1990-2005/Jul 05  
 (c) 2005 The Gale Group  
 File 441:ESPICOM Pharm&Med DEVICE NEWS 2005/Jun W1  
 (c) 2005 ESPICOM Bus.Intell.

Set	Items	Description
S1	49	ARTIFICIAL() (DISC OR DISK) () REPLACEMENT? ?
S2	10130	POSTERIOR? ?
S3	4	S1 AND S2
S4	3	RD (unique items) [not relevant]

File 155:MEDLINE(R) 1951-2005/Jul W1  
 (c) format only 2005 The Dialog Corp.  
 File 5:Biosis Previews(R) 1969-2005/Jun W4  
 (c) 2005 BIOSIS  
 File 73:EMBASE 1974-2005/Jul 05  
 (c) 2005 Elsevier Science B.V.  
 File 34:SciSearch(R) Cited Ref Sci 1990-2005/Jun W4  
 (c) 2005 Inst for Sci Info  
 File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
 (c) 1998 Inst for Sci Info  
 File 94:JICST-EPlus 1985-2005/May W3  
 (c) 2005 Japan Science and Tech Corp(JST)  
 File 144:Pascal 1973-2005/Jun W4  
 (c) 2005 INIST/CNRS  
 File 8:Ei Compendex(R) 1970-2005/Jun W4  
 (c) 2005 Elsevier Eng. Info. Inc.  
 File 35:Dissertation Abs Online 1861-2005/Jun  
 (c) 2005 ProQuest Info&Learning  
 File 65:Inside Conferences 1993-2005/Jul W1  
 (c) 2005 BLDSC all rts. reserv.

Set	Items	Description
S1	103	ARTIFICIAL() (DISC OR DISK) () REPLACEMENT? ?
S2	510982	POSTERIOR??
S3	12	S1 AND S2
S4	9	RD (unique items)
S5	2	S4/2004:2005
S6	7	S4 NOT S5

6/7,K/2 (Item 1 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

(c) 2005 BIOSIS. All rts. reserv.

0013205075 BIOSIS NO.: 200100376914

**Surgical management of instability of the lumbar spine**

AUTHOR: Aulisa Lorenzo (Reprint); Di Segni Federico; Tamburrelli Francesco;  
 Pitta Leonardo; De Santis Vincenzo

AUTHOR ADDRESS: Clinica Ortopedica, Universita Cattolica del S. Cuore,  
 Policlinico A. Gemelli, Largo A. Gemelli 8, 00168, Roma, Italy\*\*Italy

JOURNAL: Rays (Rome) 25 (1): p105-110 Gennaio-Marzo, 2000 2000

MEDIUM: print

ISSN: 0390-7740

DOCUMENT TYPE: Article; Literature Review

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The surgical management of clinical spinal instability is for many aspects controversial since the lack of a precise clinical and instrumental definition of instability complicates the implementation of a therapeutic protocol. Both the indications and the surgical procedure are not always well defined. Some of the most common surgical techniques used in the most frequent causes of instability of the lumbar spine: fractures, degenerative disease and spondylolisthesis, are described.

DESCRIPTORS:

METHODS & EQUIPMENT: **artificial disk replacement** --....  
... **posterior stabilization**

**6/7,K/4 (Item 2 from file: 73)**

DIALOG(R) File 73:EMBASE

(c) 2005 Elsevier Science B.V. All rts. reserv.

12213023 EMBASE No: 2003322685

**The implications of constraint in lumbar total disc replacement**

Huang R.C.; Girardi F.P.; Cammisa Jr. F.P.; Wright T.M.

Dr. R.C. Huang, 310 E. 71 St., 2A, New York, NY 10021 United States

AUTHOR EMAIL: russelhuang@yahoo.com

Journal of Spinal Disorders and Techniques ( J. SPINAL DISORD..TECH. ) ( United States) 2003, 16/4 (412-417)

CODEN: JSDTB ISSN: 1536-0652

DOCUMENT TYPE: Journal ; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

NUMBER OF REFERENCES: 30

Lumbar **total disc replacement** (TDR) is an evolving technique that has the potential to replace arthrodesis as the gold standard surgical treatment of degenerative disc disease. The interaction between host anatomy and physiology and the biomechanical properties of TDR implants will determine the quality of long-term clinical results. However, there is scant literature addressing this subject. The purpose of this article is to discuss the implications of biomechanical constraint in TDR. Based upon available data for normal motion segments and the design of two TDRs currently in clinical trials, unconstrained designs appear to have a kinematic advantage. They are more likely to provide a physiologic mobile instantaneous axis of rotation (IAR), which may explain why they display greater range of motion in vivo. Their lack of constraint may prevent excessive facet joint or capsuloligamentous loads in the extremes of flexion and extension. Furthermore, since the IAR is mobile, they may be less sensitive to small errors in implant placement. On the other hand, constrained devices appear to have an advantage in protection of the **posterior** elements from shear loading. Spinal shear loads of considerable magnitude occur during activities of daily living. Whether the transference of stresses to the implant and implant-bone interface is clinically significant is unknown. Although this article focuses on two specific TDR designs, future designs will need to account for the same kinematic and loading concerns regarding constraint. We hope this discussion will assist clinicians and researchers in the design, selection, and clinical comparison of present and future TDR implants.

MEDICAL TERMS (UNCONTROLLED): **artificial disk replacement**

**FOREIGN AND INTERNATIONAL PATENTS**

File 350:Derwent WPIX 1963-2005/UD,UM &UP=200542

(c) 2005 Thomson Derwent

File 347:JAPIO Nov 1976-2005/Feb(Updated 050606)

(c) 2005 JPO & JAPIO

Set	Items	Description
S1	1817	(VERTEBRAL OR INTERVERTEBRAL OR SPINAL OR LUMBAR OR INTERSPINOUS) ( ) (DISC? ? OR DISK? ?) OR DIS?ECTOMY
S2	155869	IMPLANT? OR PROSTHES?S OR PROSTHETIC? ?
S3	92819	CUSHION??? OR DAMPENING ( ) MATRIX OR LIQUID ( ) FILLED OR HYDROGEL
S4	1136502	SPRING OR SPRINGS OR COIL? ? OR SPONGE OR SPONGES
S5	2857045	SUPPORT? ? OR PLATE OR PLATES
S6	7528	POSTERIOR??
S7	472374	ACCESS??? OR APPROACH???
S8	2253	IC=A61F-002/44
S9	365436	IC= (A61F? OR A61B?)
S10	25	S6 (N) S7
S11	6	S1 AND S10
S12	5	S2 AND S11
S13	654210	DISC? ? OR DISK? ?
S14	27902	VERTEBRA OR VERTEBRAE OR VERTEBRAL OR INTERVERTEBRA? ? OR - SPINAL OR SPINE OR INTERSPINOUS OR LUMBAR
S15	11	S13 AND S14 AND S10
S16	6	S15 NOT S12
S17	32	S3:S4 AND S5 AND S13:S14 AND S6
S18	8	S2 AND S17
S19	8	S18 NOT (S12 OR S15)
S20	0	S11 NOT (S12 OR S15 OR S18)
S21	24	S17 NOT (S12 OR S15 OR S18)
S22	4	S8 AND S21
S23	11	(S21 AND S9) NOT S22
S24	20	S3:S4 AND S6 AND S8
S25	9	S24 NOT (S12 OR S15 OR S18 OR S22 OR S23)
S26	34	ARTIFICIAL ( ) (DISK OR DISC) ( ) REPLACEMENT
S27	4	S6 AND S26
S28	2	S27 NOT (S24 OR S12 OR S15 OR S18 OR S22 OR S23)
S29	9	S21 NOT (S27 OR S24 OR S12 OR S15 OR S18 OR S22 OR S23) [not relevant]

12/26, TI/1 (Item 1 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016089413

WPI Acc No: 2004-247289/200423

Medical implant , i.e. prostheses for use in, e.g. any joints in patient's body, comprises expandable cover having peripheral portion that has thicker cross-section than interior portion when in expanded position

12/26, TI/5 (Item 5 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

014295568

WPI Acc No: 2002-116271/200216

Fusion cage designed to be implanted using a posterior approach to

the vertebral bone structures, has a proximal trailing end and a distal leading end, the proximal end having a diameter which is smaller than that of the distal end

12/3,K/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

015601753 \*\*Image available\*\*

WPI Acc No: 2003-663908/200362

XRPX Acc No: N03-529904

Intersomatic implant for two vertebrae fusion in damage of disc separating between them, has two parts with former oriented in posterior-anterior direction of spine and latter perpendicular to former and connected by transition portion

Patent Assignee: SDGI HOLDINGS INC (SDGI-N); SOFAMOR SOC FAB MATERIEL ORTHOPEDIQUE (SOFA-N)

Inventor: BERTAGNOLI R; FABRIS MONTERUMICI D A; JOSSE L; LIU M; FABRIS M D A

Number of Countries: 103 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200371992	A2	20030904	WO 2003IB713	A	20030225	200362 B
FR 2836373	A1	20030829	FR 20022428	A	20020226	200368
AU 2003207382	A1	20030909	AU 2003207382	A	20030225	200428
EP 1478309	A2	20041124	EP 2003704856	A	20030225	200477
			WO 2003IB713	A	20030225	
US 20050119747	A1	20050602	WO 2003IB713	A	20030225	200537
			US 2005505969	A	20050210	

Priority Applications (No Type Date): FR 20022428 A 20020226

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

WO 200371992	A2 E	36	A61F-002/44	
--------------	------	----	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT SD SE SI SK SL SZ TR TZ UG ZM ZW

FR 2836373	A1		A61F-002/44	
------------	----	--	-------------	--

AU 2003207382	A1		A61F-002/44	Based on patent WO 200371992
---------------	----	--	-------------	------------------------------

EP 1478309	A2 E		A61F-002/44	Based on patent WO 200371992
------------	------	--	-------------	------------------------------

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

US 20050119747	A1		A61F-002/44	
----------------	----	--	-------------	--

Abstract (Basic):

... The **implant** has two parts with the former oriented in the **posterior-anterior** direction of the spine...

...which is received by the former part (1b), thereby making the parts male and female **implants**, respectively.

... The shape and the dimensions of the elastic tabs of the female **implant** making them able to permit insertion of the protrusion of the male **implant** into the receiver. The ends of the elastic tabs are inserted into the receiving seats in order to achieve and maintain a connection of the two **implants**. INDEPENDENT CLAIMS are also included



for the following...

- ...a) an instrument set for fitting an Intersomatic **implant**  
(...
- ...b) a tool to introduce Intersomatic **implant** into a receiving seat  
formed in an **intervertebral disc**  
(...
- ...c) a method of engaging male and female **implants** .  
...

...The interbody **implants** are interconnected while/after they are placed  
separately in the degenerated disc in such a...

...as to form there a stable and integrated platform. Thus, in functional  
terms, a single **implant** is obtained without the disadvantages and  
risks that would be involved in **implanting** a single monoblock  
**implant** by a **posterior approach** .  
...

...The drawing shows a perspective view of two half- **implants** , male and  
female...

...Male half- **implant** (1a...  
...Female half- **implants** (1b

12/3,K/3 (Item 3 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2005 Thomson Derwent. All rts. reserv.  
014596910 \*\*Image available\*\*  
WPI Acc No: 2002-417614/200244  
XRPX Acc No: N02-328707

Prosthesis for arthrodesis of inter- vertebral disc space of the  
spine, for treating degeneration of inter- vertebral discs

Patent Assignee: KALAITZIS C (KALA-I); KARAVELIS A (KARA-I)

Inventor: KALAITZIS C; KARAVELIS A

Number of Countries: 029 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200241811	A1	20020530	WO 2001GR42	A	20011121	200244 B
AU 200223912	A	20020603	AU 200223912	A	20011121	200263
EP 1343441	A1	20030917	EP 2001997268	A	20011121	200362
			WO 2001GR42	A	20011121	

Priority Applications (No Type Date): GR 100414 A 20001122

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 200241811	A1	E	25	A61F-002/44	
--------------	----	---	----	-------------	--

Designated States (National): AU CA CN IL JP RU US YU

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GR IE IT

LU MC NL PT SE TR

AU 200223912	A		A61F-002/44	Based on patent WO 200241811
--------------	---	--	-------------	------------------------------

EP 1343441	A1	E	A61F-002/44	Based on patent WO 200241811
------------	----	---	-------------	------------------------------

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI

LU MC NL PT SE TR

Abstract (Basic):

... The **prosthesis** consists of two parts that are assembled during  
their **implantation** to the patient's interbody space after disc  
removal. It consists of one hollow threaded...

... The two part's **prosthesis** , either conical hollow threaded  
screw, or cylindrical hollow screw, are assembled with the corresponded  
plates...

...A **prosthesis** for arthrodesis of inter- **vertebral disc** space of spine, for treating degeneration of inter- **vertebral disc** .  
...  
...The drawing shows the **posterior approach** and arthrodesis **prosthesis** , which carries instead of a forked cage, a simple externally rectangular, one for each cylindrical...

12/3,K/4 (Item 4 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2005 Thomson Derwent. All rts. reserv.  
014435285 \*\*Image available\*\*  
WPI Acc No: 2002-255988/200230  
Related WPI Acc No: 2002-179977  
XRPX Acc No: N02-197999

**Stabilizing method for intervertebral joint between vertebral bodies involves mounting external stabilization to first an second vertebrae after intervertebral implant is inserted to implant bore**  
Patent Assignee: HOUFBURG R L (HOUF-I); MCPHILLIPS D D (MCPH-I); SCHMIEL D G (SCHM-I); WELCH W C (WELC-I)  
Inventor: HOUFBURG R L; MCPHILLIPS D D; SCHMIEL D G; WELCH W C  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020026192	A1	20020228	US 2000630793	A	20000802	200230 B
			US 2001921008	A	20010802	

Priority Applications (No Type Date): US 2001921008 A 20010802; US 2000630793 A 20000802

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020026192	A1	18	A61B-017/58	CIP of application	US 2000630793

Abstract (Basic):

... An **implant bore** (70) is formed between adjacent first and second vertebral bodies for receiving an intervertebral **implant** (80). The intervertebral **implant** is inserted to the **implant bore**. An external stabilization system is then mounted between first and second vertebrae.  
... b) and a kit for preparing **implant site** for receiving intervertebral **implant** .  
...

...For stabilizing intervertebral joint between vertebral bodies from **posterior approach** .  
...

...Stabilizes lumbar vertebrae. Stabilizes instrument guide during use. Distract and maintain distraction of **intervertebral disc** space to predetermined height during an **implant** procedure...  
...The figure shows the end view of a disc space with an **implant** passed to the **implant site**...  
... **Implant bore** (70)...  
...Intervertebral **implant** (80)

16/26,TI/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2005 Thomson Derwent. All rts. reserv.  
016283163

WPI Acc No: 2004-441058/200441

Intervertebral stabilization comprises delivering unexpanded expandable device into disc space and expanding expandable device with expandable component to distract disc space

16/26, TI/3 (Item 3 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

014878214

WPI Acc No: 2002-698920/200275

Interbody spinal fusion implant for implantation between adjacent vertebral bodies of adult human spine, comprises expander, and body with leading end, trailing end, and mid-longitudinal axis

16/3, K/2 (Item 2 from file: 350)

DIALOG(R) File 350: Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

015703566 \*\*Image available\*\*

WPI Acc No: 2003-765759/200372

Related WPI Acc No: 2003-092394; 2004-615070; 2004-625147

XRAM Acc No: C03-210293

XRPX Acc No: N03-613338

Intervertebral implant for posterior insertion via transforaminal window, has posterior and anterior faces, pair of convex narrow ends, superior and inferior faces, depression in anterior or posterior face, vertical through-channels

Patent Assignee: SYNTHES (SYNT-N); SYNTHES CHUR AG (SYNT-N); GERBER D (GERB-I); KOBAYASHI K I (KOBAYASHI-I); MESSERLI D (MESS-I); PAUL D (PAUL-I); SYNTHES AG (SYNT-N); SYNTHES USA (SYNT-N)

Inventor: GERBER D; KOBAYASHI K I; MESSERLI D; PAUL D

Number of Countries: 036 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030139813	A1	20030724	US 2001848178	A	20010503	200372 B
			US 2002293997	A	20021113	
WO 200443291	A2	20040527	WO 2003US36235	A	20031112	200435
AU 2003295501	A1	20040603	AU 2003295501	A	20031112	200470

Priority Applications (No Type Date): US 2002293997 A 20021113; US 2001848178 A 20010503

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030139813	A1		29	A61F-002/44	CIP of application US 2001848178
WO 200443291	A2	E		A61F-000/00	
Designated States (National): AU BR CA CO JP MX NO NZ US ZA					
Designated States (Regional): AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR					
AU 2003295501	A1			A61F-002/44	Based on patent WO 200443291

Abstract (Basic):

... An intervertebral implant (22) comprises curved, parallel posterior and anterior faces; pair of convex narrow ends separating posterior and anterior faces; superior and inferior faces (28, 30) for contacting upper and lower vertebral endplates; depression in the anterior or posterior face; at least two vertical through-channels extending...

... An intervertebral implant comprises curved, parallel posterior

and anterior faces, where the posterior extends along a longitudinal...  
...separating the posterior and anterior faces; superior and inferior faces  
for contacting upper and lower **vertebral** endplates; depression(s) in  
the anterior or posterior face for engagement by an insertion tool...  
...a) a kit for implanting an **intervertebral** implant into an affected  
**disc** space of a patient via **posterior approach** through a  
transforaminal window comprising implant of the above invention; and  
insertion tool for holding...  
...b) a method for implanting an **intervertebral** implant into an affected  
**disc** space of a patient comprising creating a transforaminal window  
from the posterior side of the **spine**; inserting bone graft material  
into the affected **disc** space; providing an implant; adding bone graft  
material to the vertical through-channels of the implant; inserting a  
first convex narrow end of the implant into the affected **disc** space  
via the transforaminal window with an insertion tool; guiding the  
implant in a portion of the **disc** space closer to the anterior edge of  
the **disc** space than the posterior edge of the **disc** space...  
...For posterior insertion via a transforaminal window, e.g. transforaminal  
**lumbar** interbody fusion procedure...

Technology Focus:

... first narrow convex end is configured and adapted to be inserted  
first into an affected **disc** space before a second convex narrow end  
and the chamfer is at the first convex...

16/3,K/4 (Item 4 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2005 Thomson Derwent. All rts. reserv.  
014056493 \*\*Image available\*\*  
WPI Acc No: 2001-540706/200160  
XRPX Acc No: N01-401831

Posterior approach **laminectomy** method involves inserting single tang  
retractor within **intradiscal space** in direction parallel to recorded  
direction of **disc space spreader** inserted within **intradiscal space**

Patent Assignee: MEHDIZADEH H M (MEHD-I)

Inventor: MEHDIZADEH H M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6283968	B1	20010904	US 2000519284	A	20000307	200160 B

Priority Applications (No Type Date): US 2000519284 A 20000307

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6283968	B1	5	A61B-017/56	

Abstract (Basic):

... retractor within a **intradiscal space** in a direction parallel to  
the recorded direction of a **disc space spreader** inserted within  
**intradiscal space**. Grooves are formed on the surface of an adjacent  
**vertebrae** to receive a prosthesis. Afterwards, the prosthesis is  
positioned in contact with the formed surfaces...  
... The **disc space spreader** is inserted within **intradiscal space**  
and recording the direction of the **disc space spreader** insertion  
after a nerve root and dural are extracted...  
...For placing prosthesis within **intradiscal space** between adjacent  
**vertebrae** .  
...

...Ensures reliable placing of prosthesis into the space between adjacent **vertebrae** by retracting the dural to an out of way position and spreading the adjacent **vertebrae** .

16/3,K/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

013890961 \*\*Image available\*\*

WPI Acc No: 2001-375174/200140

Spinal column fixing and articulation comprises rigid plates fixed to facing surfaces of vertebrae with flexible elements between

Patent Assignee: ZACUTO F (ZACU-I)

Inventor: ZACUTO F

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2323706	A1	20010414	CA 2323706	A	20001013	200140 B

Priority Applications (No Type Date): FR 9912812 A 19991014

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2323706	A1	F	30	A61F-002/44	

Abstract (Basic): CA 2323706 A1

NOVELTY - The fixing consists of two rigid **plates** (10, 11) attached to the facing surfaces of two adjacent vertebrae (V1, V2), connected by an intermediate element (20) providing articulation. The **plates** are connected to the vertebrae by rods or screws (30) inserted through holes (15) and turned by a radial rod and angle gear mechanism. If necessary the screws can be in two sections which clip together and are inserted one after the other. The fixing can be expanded by deformable e.g. viscoelastic or bellows elements (25) containing a **fluid** under pressure.

USE - **Disc prosthesis** to restore stability between **vertebrae**.

ADVANTAGE - **Can be fitted quickly via posterior access** without subjecting the patient to major surgical intervention.

DESCRIPTION OF DRAWING(S) - The drawing shows a cross-section of the prosthesis in side view.

Vertebrae (V1, V2)

Plates (10, 11)

Holes (15)

screws or rods (30)

Bellows elements (25)

pp; 30 DwgNo 1/18

Derwent Class: P32

International Patent Class (Main): A61F-002/44

XRPX Acc No: N01-274570

Spinal column fixing and articulation comprises rigid plates fixed to facing surfaces of vertebrae with flexible elements between

Patent Assignee: ZACUTO F (ZACU-I)

Inventor: ZACUTO F

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2323706	A1	20010414	CA 2323706	A	20001013	200140 B

Priority Applications (No Type Date): FR 9912812 A 19991014

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2323706	A1	F	30	A61F-002/44	

Abstract (Basic):

... consists of two rigid plates (10, 11) attached to the facing surfaces of two adjacent **vertebrae** (V1, V2), connected by an intermediate element (20) providing articulation. The plates are connected to the **vertebrae** by rods or screws (30) inserted through holes (15) and turned by a radial rod...

... **Disc** prosthesis to restore stability between **vertebrae** .

... Can be fitted quickly via **posterior** **access** without subjecting the patient to major surgical intervention...

... **Vertebrae** (V1, V2

16/3,K/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

013843234 \*\*Image available\*\*

WPI Acc No: 2001-327447/200134

XRPX Acc No: N01-235525

**Combined wedge and channel intervertebral distraction device, positions wedge between adjacent vertebral end plates to form intervertebral space accessible upon removal of wedge**

Patent Assignee: BAYNHAM G C (BAYN-I); BAYNHAM M G (BAYN-I)

Inventor: BAYNHAM G C; BAYNHAM M G

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6224599	B1	20010501	US 99134924	P	19990519	200134 B
			US 2000517469	A	20000302	

Priority Applications (No Type Date): US 99134924 P 19990519; US 2000517469 A 20000302

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6224599	B1		8	A61B-017/70	Provisional application US 99134924

Abstract (Basic):

... The device includes a channel defining body (104) set between adjacent **vertebral** end plates. A wedge (102) is inserted within the channel defining body. An impactor handle is releasably coupled with the wedge to facilitate positioning between adjacent **vertebral** end plates. The wedge is positioned between adjacent **vertebral** end plates to form an **intervertebral** space accessible upon removal of the wedge.

... also included for a combinend channel defining body and retractor for producing and maintaining an **intervertebral** portal between adjacent **vertebral** end plates...

... For producing and maintaining an **intervertebral** access port between adjacent **vertebral** end plates...

... Offers a combined wedge and channel **intervertebral** distraction device which provides an enhanced view of the interior anatomy of the **spine** upon insertion. Enables to create an access port useful for retrieval of bony abnormalities and herneated **disk** fragments. Enables anterior or **posterior approach** for distraction of spinous processes and access...

19/7/3 (Item 3 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016229151 \*\*Image available\*\*

WPI Acc No: 2004-387040/200436

Prosthetic spinal disc used to replace natural human spinal disc  
that has been damaged by trauma or disease, comprises prosthetic  
spinal disc nucleus having flexible shell and compressible such that  
it may occupy variable volume of space

Patent Assignee: ZIMMER TECHNOLOGY INC (ZIMM-N)

Inventor: LOZIER A J; LOZIER A

Number of Countries: 035 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6733533	B1	20040511	US 2002299521	A	20021119	200436 B
EP 1421921	A2	20040526	EP 2003257293	A	20031119	200436
CA 2448704	A1	20040519	CA 2448704	A	20031106	200438
JP 2004167254	A	20040617	JP 2003389013	A	20031119	200440
AU 2003262359	A1	20040603	AU 2003262359	A	20031119	200465

Priority Applications (No Type Date): US 2002299521 A 20021119

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

US 6733533	B1	19	A61F-002/44		
------------	----	----	-------------	--	--

EP 1421921	A2 E		A61F-002/44		
------------	------	--	-------------	--	--

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

CA 2448704	A1 E		A61F-002/44		
------------	------	--	-------------	--	--

JP 2004167254	A	18	A61F-002/44		
---------------	---	----	-------------	--	--

AU 2003262359	A1		A61F-002/44		
---------------	----	--	-------------	--	--

Abstract (Basic): US 6733533 B1

NOVELTY - A prosthetic spinal disc , comprises prosthetic spinal disc annulus having flexible ring; first fluid inside the hollow interior inflating the ring for spinal disc annulus; prosthetic spinal disc nucleus (120) comprising flexible shell having hollow interior, the nucleus being compressible such that it may occupy variable volume of space; second fluid inside the hollow interior; and pair of prosthetic spinal disc end plates , each being flexible.

DETAILED DESCRIPTION - A prosthetic spinal disc , comprises:

(a) a prosthetic spinal disc annulus (140) having a flexible ring of desired size and shape, the ring being compressible such that it may occupy a variable volume of space, the ring comprising an exterior and a hollow interior and an opening in communication between the exterior and the interior;

(b) a first fluid inside the hollow interior inflating the ring to a size and shape suitable for a spinal disc annulus;

(c) a prosthetic spinal disc nucleus comprising a flexible shell having a hollow interior, the nucleus being compressible such that it may occupy a variable volume of space;

(d) a second fluid inside the hollow interior inflating the nucleus into a final shape, the shape being suitable for a spinal disc nucleus; and

(e) a pair of prosthetic spinal disc end plates (100), each being flexible and having a relatively flat shape, and each end plate having a suitable size and shape for a spinal disc and comprising a

bone contacting surface and an annulus contacting surface, where the bone contacting surface is susceptible to bone growth for long term fixation to adjacent natural bone, and where the bone contacting surface further comprises projection for initial short term fixation to adjacent bone in a desired **vertebral** space.

The annulus is attached to the annulus contacting surface of each end **plate** of the pair of end **plates** , such that the nucleus is surrounded by the annulus and between the pair of end **plates** . An INDEPENDENT CLAIM is also included for a method for **implanting** a **prosthetic spinal disc** comprising making an incision through the epidermis of person; creating a surgical path from the incision to the natural **disc** ; removing the natural **disc** , thus creating a **vertebral** space having adjacent **vertebra** ; resecting the **vertebra** such that cancellous bone is exposed; inserting a **prosthetic spinal disc** comprising an expandable nucleus, an expandable annulus and a pair of flexible end **plates** ; and inflating the **prosthetic disc** to a final desired shape. The inflating step comprises filling the nucleus with a first fluid and filling the annulus with second fluid.

USE - For use to replace a natural human **spinal disc** that has been damaged by trauma or disease.

ADVANTAGE - The **prosthetic spinal disc** restores or maintains the **spinal** function at all stages of **disc** degeneration. It can be employed at a manner that is minimally invasive to the patient, and is a more anatomically correct **prosthetic disc** . It reduces or eliminates the long term problems associated with presently employed treatments, such as discectomy or arthrodesis.

DESCRIPTION OF DRAWING(S) - The figure is a perspective view of a **spinal disc** with a pair of adjacent filling tubes.

**Prosthetic spinal disc end plates** (100)

**Prosthetic spinal disc nucleus** (120)

Access portal (125)

**Prosthetic spinal disc annulus** (140)

Aperture (146)

pp; 19 DwgNo 24/25

Derwent Class: A96; D22; P32; P34

International Patent Class (Main): A61F-002/44

International Patent Class (Additional): A61L-027/00; A61L-027/04;

A61L-027/06; A61L-027/14

19/7/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016170365 \*\*Image available\*\*

WPI Acc No: 2004-328252/200430

**Spinal motion device useful as disc replacement or as vertebral body replacement comprises body with two surfaces and first bearing mechanism(s)**

Patent Assignee: ROBIE B H (ROBI-I); WOODARD E (WOOD-I)

Inventor: ROBIE B H; WOODARD E

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040068320	A1	20040408	US 2002264496	A	20021004	200430 B

Priority Applications (No Type Date): US 2002264496 A 20021004

Patent Details:



Patent No Kind Lan Pg Main IPC Filing Notes

US 20040068320 A1 11 A61F-002/44

Abstract (Basic): US 20040068320 A1

NOVELTY - A **spinal** motion device (10) comprises body (12) with opposing two surfaces and first bearing mechanism(s) (18) attached to the first surface.

USE - Useful as **disc** replacement or as **vertebral** body replacement particularly **implanting** in a **spine**

ADVANTAGE - The invention permits replacement of the **disc** without bone removal or permits partial resection of the bone and still restores motion. It can be made in different sizes allowing the device to function as **disc** replacement or **vertebral** body replacement.

DESCRIPTION OF DRAWING(S) - The figure shows a side elevational view of the motion device.

**Spinal** motion device (10)

Body (12)

Anterior (13)

**Support** surfaces (14)

**Posterior** (15)

Bearing mechanism(s) (18)

pp; 11 DwgNo 1/9

Derwent Class: A96; D22; P32

International Patent Class (Main): A61F-002/44

19/7/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

010643859

WPI Acc No: 1996-140813/199615

Prosthetic nucleus implant for cavity of intervertebral disc - comprises at least one hydrophilic xerogel rod which forms hydrogel rod on absorption of water which expands to fill cavity.

Patent Assignee: HOWMEDICA INC (HOWN ); STRYKER TECHNOLOGIES CORP (STRY-N)

Inventor: BAO Q; HIGHAM P A

Number of Countries: 020 Number of Patents: 011

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 700671	A1	19960313	EP 95306158	A	19950904	199615 B
AU 9530488	A	19960321	AU 9530488	A	19950907	199619
CA 2157634	A	19960309	CA 2157634	A	19950906	199625
JP 8098851	A	19960416	JP 95229031	A	19950906	199625
AU 686855	B	19980212	AU 9530488	A	19950907	199814
JP 2735517	B2	19980402	JP 95229031	A	19950906	199818
US 5976186	A	19991102	US 94303297	A	19940908	199953
			US 96670140	A	19960625	
CA 2157634	C	20001003	CA 2157634	A	19950906	200056
EP 700671	B1	20010808	EP 95306158	A	19950904	200146
US 6280475	B1	20010828	US 94303297	A	19940908	200151
			US 96670140	A	19960625	
			US 99388843	A	19990902	
DE 69522060	E	20010913	DE 622060	A	19950904	200161
			EP 95306158	A	19950904	

Priority Applications (No Type Date): US 94303297 A 19940908; US 96670140 A 19960625; US 99388843 A 19990902

Cited Patents: EP 453393; US 3867728; WO 9210982

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 700671	A1	E	12	A61F-002/44	
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE					
AU 9530488	A			A61F-002/44	
CA 2157634	A			A61L-027/00	
JP 8098851	A		10	A61F-002/44	
AU 686855	B			A61F-002/44	Previous Publ. patent AU 9530488
JP 2735517	B2		9	A61F-002/44	Previous Publ. patent JP 8098851
US 5976186	A			A61F-002/44	Cont of application US 94303297
CA 2157634	C	E		A61L-027/00	
EP 700671	B1	E		A61F-002/44	
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE					
US 6280475	B1			A61F-002/44	Cont of application US 94303297 Div ex application US 96670140 Div ex patent US 5976186
DE 69522060	E			A61F-002/44	Based on patent EP 700671

Abstract (Basic): EP 700671 A

A **prosthetic nucleus implant** in the cavity of an intervertebral **disc**, from which the natural nucleus has been removed and which is in fluid connection with the outer surroundings of the **disc** through an opening in its annulus, comprises at least one hydrophilic xerogel rod. The rods together are of sufficient length and dia. so that the **hydrogel** rods, formed on absorption of water from an aq. compsn., when hydrated to their equilibrium water content and subjected to the constraints of the annulus and end **plates** of the **disc** expand to fill, and conform to the shape of, the cavity.

Also claimed is a method for preparing the **prosthetic nucleus**.

USE - The **implantation** of the **prosthetic nucleus** can be performed in conjunction with a discectomy or chemo-nucleolysis. The **prosthetic nucleus** can be used to replace some or all of the natural nucleus material.

ADVANTAGE - The claimed **prosthetic nucleus** may be brought to its equilibrium water content more rapidly than **hydrogel prostheses** because of its greater surface area. The xerogel does not need to be formed into the shape of the cavity. Use of an elongated rod or tube, means the incision area in the annulus can be reduced and the **implants** are easier to manipulate during surgery, and the **prosthesis** can be **implanted** into the **disc** by means of a **posterior** lateral approach, owing to its small size. Biomechanical functions of the **disc** are quickly restored when using this **implant**. The **prosthetic nucleus** functions in a manner similar to that of the natural nucleus. The **hydrogel** material is capable of balancing its hydrostatic pressure with external loads on it. Owing to its superior structural integrity the **hydrogel** nucleus will not herniate or bulge through previously herniated areas or the incision made to remove the degenerated nucleus.

Dwg.0/6

Derwent Class: A96; D22; F07; P32; P34

International Patent Class (Main): A61F-002/44; A61L-027/00

22/7/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016625557      **\*\*Image available\*\***

WPI Acc No: 2004-784284/200477

**Artificial intervertebral disc for use as loading and bearing device  
for replacement of damaged, decayed, or non-functioning intervertebral  
disc comprises housing and self-adjusting bearing mechanism**

Patent Assignee: SPINAL INNOVATIONS LLC (SPIN-N); RICHELSON M (RICH-I)

Inventor: CLIFT J S; RICHELSON M

Number of Countries: 034    Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040225363	A1	20041111	US 2003430861	A	20030506	200477 B
			US 2003653540	A	20030902	
EP 1514527	A2	20050316	EP 2004255310	A	20040902	200519

Priority Applications (No Type Date): US 2003653540 A 20030902; US  
2003430861 A 20030506

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040225363	A1		38	A61F-002/44	CIP of application US 2003430861
EP 1514527	A2 E			A61F-002/44	

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HR HU IE IT LI LT LU LV MC MK NL PL PT RO SE SI SK TR

Abstract (Basic): US 20040225363 A1

NOVELTY - An artificial **intervertebral disc** (10) comprises housing (12, 14) and self-adjusting bearing mechanism. The housing includes spaced inner surfaces (16, 18) facing each other and oppositely facing outer surfaces (20, 22) for engaging spaced apart **intervertebral** surfaces. The self-adjusting bearing mechanism is disposed between the inner surface for moving relative the housing to adjust and compensate for **vertebral disc** motion.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

- (1) mobile bearing comprising self-adjusting bearing mechanism operatively disposed between the inner surfaces of housing for moving relative to the housing to adjust and compensate for motion of the housing;
- (2) automatically adjusting **support** of housing by floating mobile bearing in the housing for automatically adjusting for motion of the housing and providing **support** relative to the motion;
- (3) artificial joint comprising housing with spaced inner surfaces, self-adjusting bearing, and self-centering mechanism; and
- (4) **posteriorly** inserting an artificial **disc** assembly by inserting at least two artificial **disc** assemblies around a **spine** and into **intervertebral** space. .

USE - For use as loading and bearing device for replacement of damaged, decayed, or non-functioning **intervertebral disc** .

ADVANTAGE - The invention provides solution to **intervertebral disc** replacement that restores motion to the damaged natural **disc** area while allowing for motion as well as **cushioning** and dampening. It prevents polymer or elastomeric material from experiencing the relatively high compressive loads seen in the **spine** . It allows a bearing surface to share the **spinal** loads with polymer and elastomeric material. It controls changes to the artificial motion intraoperatively to adjust the anatomical conditions.

DESCRIPTION OF DRAWING(S) - The figure shows a side perspective view of the invention.

Artificial **intervertebral disc** (10)

Housing (12)  
Housing (12, 14)  
Spaced inner surfaces (16, 18)  
Facing outer surfaces (20, 22)  
Facing outer surfaces (24 26)  
Bearing surfaces (24, 26)  
Pads (32, 34)

pp; 38 DwgNo 1/40

Derwent Class: A96; D22; P32

International Patent Class (Main): A61F-002/44

22/7/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016044690 \*\*Image available\*\*

WPI Acc No: 2004-202541/200419

Support and augmentation of a nucleus pulposus of an intervertebral disc in a spine comprises inserting a flexible biocompatible material attached to an anchor into a disc space and anchoring material to a functional spine unit site

Patent Assignee: EINHORN J (EINH-I); LAMBRECHT G H (LAMB-I); MOORE R K (MOOR-I)

Inventor: EINHORN J; LAMBRECHT G H; MOORE R K

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040030392	A1	20040212	US 99149490	P	19990818	200419 B
			US 99161085	P	19991025	
			US 99172996	P	19991221	
			US 2000608797	A	20000630	
			US 2000642450	A	20000818	
			US 2000696636	A	20001025	
			US 2001298605	P	20010614	
			US 2001304545	P	20010710	
			US 2001311586	P	20010810	
			US 200155504	A	20011025	
			US 200120507	A	20011211	
			US 2002194428	A	20020710	
			US 2003442659	A	20030521	

Priority Applications (No Type Date): US 2003442659 A 20030521; US 99149490 P 19990818; US 99161085 P 19991025; US 99172996 P 19991221; US 2000608797 A 20000630; US 2000642450 A 20000818; US 2000696636 A 20001025; US 2001298605 P 20010614; US 2001304545 P 20010710; US 2001311586 P 20010810; US 200155504 A 20011025; US 200120507 A 20011211; US 2002194428 A 20020710

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040030392	A1	102	A61F-002/44		Provisional application US 99149490
					Provisional application US 99161085
					Provisional application US 99172996
					CIP of application US 2000608797
					CIP of application US 2000642450
					CIP of application US 2000696636
					Provisional application US 2001298605
					Provisional application US 2001304545

Provisional application US 2001311586  
Cont of application US 200155504  
CIP of application US 200120507  
CIP of application US 2002194428  
CIP of patent US 6425919  
CIP of patent US 6482235  
CIP of patent US 6508839

Abstract (Basic): US 20040030392 A1

NOVELTY - Supporting and augmenting a nucleus pulposus of an **intervertebral disc** in a **spine** comprises inserting a flexible biocompatible material into the **disc** space, where the material is partially attached to an anchor (1), and anchoring the material to a site within the functional **spine** unit.

USE - For supporting and augmenting a nucleus pulposus of an **intervertebral disc** in a **spine** (claimed).

ADVANTAGE - The invention provides minimally invasive **disc** augmentation.

DESCRIPTION OF DRAWING(S) - The figure shows a transverse section of two stages involved in augmentation of the soft tissues of the **disc**

Anchor (1)

Support (2')

Connector (3)

Augmentation material (7)

Passageway (9)

Anulus fibrosus (10)

Aperture (11)

pp; 102 DwgNo 7A/66

Derwent Class: B07; D22; P32

International Patent Class (Main): **A61F-002/44**

22/7/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

014687050 \*\*Image available\*\*

WPI Acc No: 2002-507754/200254

**Inter-body device for use between pair of adjacent vertebrae which is inserted from posterior approach, and which can be used in expanded or non expanded configuration**

Patent Assignee: JACKSON R P (JACK-I)

Inventor: JACKSON R P

Number of Countries: 094 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020068976	A1	20020606	US 2000729398	A	20001204	200254 B
WO 200245628	A1	20020613	WO 2001US41801	A	20010820	200254
US 6443989	B1	20020903	US 2000729398	A	20001204	200260
AU 200185456	A	20020618	AU 200185456	A	20010820	200262

Priority Applications (No Type Date): US 2000729398 A 20001204

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

US 20020068976	A1	10	A61F-002/44	
----------------	----	----	-------------	--

WO 200245628	A1 E		A61F-002/44	
--------------	------	--	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP  
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT

RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW  
US 6443989 B1 A61F-002/44  
AU 200185456 A A61F-002/44 Based on patent WO 200245628  
Abstract (Basic): US 20020068976 A1

NOVELTY - The device includes a body (5) having upper and lower walls joined by a rear wall (17) that functions as a **spring** hinge, and one or more expansion parts (7,8,9). The walls have anterior ends that are supported in a non-expanded configuration by spaced feet that project out from the walls. The expansion parts have a threaded portion that is received in the rear wall and include a head with an anterior wedge portion that engages the anterior ends of the walls and forces the walls apart as the expansion part is screwed into the body.

DETAILED DESCRIPTION - A surface engages the expansion member after expansion and **supports** the walls during usage. The expansion member is one of a set of expansion members found in a kit which vary with respect to the diameter of the head.

USE - As an expandable fusion cage.

ADVANTAGE - Can be easily adjusted with many degrees of expansion.

DESCRIPTION OF DRAWING(S) - The drawing shows a perspective exploded view of the fusion device in a non expanded configuration, and a number of alternative expansion members.

Body (5)

Expansion parts (7-9)

Rear wall (17)

pp; 10 DwgNo 1/15

Derwent Class: P31; P32

International Patent Class (Main): **A61F-002/44**

International Patent Class (Additional): A61B-017/58

22/7/4 (Item 4 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

010773405 \*\*Image available\*\*

WPI Acc No: 1996-270358/199628

Anterior stabiliser for cervical section of spine - comprises hollow inserts linked by osteosynthesis plate and contg. spongy grafts

Patent Assignee: EUROS SA (EURO-N)

Inventor: TISSERAND P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2727005	A1	19960524	FR 9414069	A	19941118	199628 B

Priority Applications (No Type Date): FR 9414069 A 19941118

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
FR 2727005	A1	12	A61F-002/44	

Abstract (Basic): FR 2727005 A

Anterior stabiliser comprises one or more inserts (1) designed to be fitted between two or more adjacent **vertebrae** (C1, C2, C3) to maintain the required spacing between them. The inserts are shaped to contain spongy grafts for intersomatic fusion, and are connected detachably to one another by an osteosynthesis **plate** (2) fixed to the anterior faces of the **vertebrae**. Each insert is hollow and

three-dimensional, has a trapezoid cross-section and an anterior face which is higher than its **posterior** face. The osteosynthesis **plate** is curved transversely to match the shape of the corresponding surfaces of the **vertebrae**. Each of the inserts is made either from titanium or carbon fibre reinforced polymer.

ADVANTAGE - The stabiliser is simple, reliable and efficient in operation.

Dwg.3/4

Derwent Class: D22; P31; P32

International Patent Class (Main): **A61F-002/44**

International Patent Class (Additional): A61B-017/70

**23/26, TI/1 (Item 1 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

017004935

WPI Acc No: 2005-329251/200534

**Resection, correction of kyphotic deformation, corporoplasty, spondylocorporodesis and tubercular spondylitis of lumbosacral department**

**23/26, TI/4 (Item 4 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016081891

WPI Acc No: 2004-239754/200423

**Back support type vertebrae tractor**

**25/26, TI/3 (Item 3 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

015177038

WPI Acc No: 2003-237568/200323

**Closing off of defect in annulus of intervertebral disc in spine comprises inserting barrier through opening into disc and positioning barrier between native nucleus tissue and interior surface of annulus lamella**

**25/26, TI/6 (Item 6 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

014485730

WPI Acc No: 2002-306433/200235

**Prosthesis for replacement of complete vertebral unit has assembly that allows total removal and replacement of all the vertebral body's elements and has interconnection capability to posterior fusion system**

**25/3, K/1 (Item 1 from file: 350)**

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016322410 **\*\*Image available\*\***

WPI Acc No: 2004-480307/200445

XRPX Acc No: N04-378864

**Artificial disc replacement (ADR) for treating spinal conditions, has**

anterior and posterior features which permit predetermined, limited  
movement of endplate components relative to each other

Patent Assignee: FERREE B A (FERR-I)

Inventor: FERREE B A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040127991	A1	20040701	US 2002420169	P	20021022	200445 B
			US 2003690889	A	20031022	

Priority Applications (No Type Date): US 2002420169 P 20021022; US  
2003690889 A 20031022

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040127991	A1	11	A61F-002/44	Provisional application	US 2002420169

Abstract (Basic):

... endplate components (102,104), each fixed to a respective one of  
two vertebral bodies. A **cushioning** component (120) is disposed  
between the endplate components. Anterior and **posterior** features  
permit a predetermined, limited movement of the endplate components  
relative to each other.

... Provides ADR that enables to replicate the normal movements of  
spine, and protects **cushioning** component from excessive force...

... Cushioning component (120

International Patent Class (Main): **A61F-002/44**

**25/3,K/2 (Item 2 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016273557

WPI Acc No: 2004-431451/200440

XRAM Acc No: C04-161486

XRPX Acc No: N04-341207

**Multiaxial artificial disc replacement useful as standalone device  
comprises a lower component, upper component and an element that allows  
movement between the two components**

Patent Assignee: FERREE B A (FERR-I)

Inventor: FERREE B A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040106998	A1	20040603	US 2002416181	P	20021004	200440 B
			US 2003679667	A	20031006	

Priority Applications (No Type Date): US 2002416181 P 20021004; US  
2003679667 A 20031006

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040106998	A1	8	A61F-002/44	Provisional application	US 2002416181

Abstract (Basic):

Technology Focus:

... Preferred Device: ADR additionally includes a **cushioning**  
component situated between the upper and lower components; seal to  
contain debris; and fluid-containing...

...One of the axes is generally medial-lateral, and the other axis is  
generally anterior- **posterior** . The element is a cruciate-shaped axle.  
At least one of the upper and lower...



...Preferred Materials: The **cushioning** component is elastomer, **hydrogel** or **spring**.  
International Patent Class (Main): **A61F-002/44**

25/3,K/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

014787388 \*\*Image available\*\*

WPI Acc No: 2002-608094/200265

Related WPI Acc No: 2002-565427; 2003-503049; 2003-721480; 2004-154188;  
2005-181564; 2005-212377

XRPX Acc No: N02-481644

Pain treatment method for spinal disorders, involves attaching dynamic bias mechanism having pair of attachment and spring to opposite side of vertebrae

Patent Assignee: ATKINSON R E (ATKI-I); KEITH P T (KEIT-I); SPINALABS LLC (SPIN-N)

Inventor: ATKINSON R E; KEITH P T

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020095154	A1	20020718	US 2000542972	A	20000404	200265 B
			US 200293990	A	20020307	
US 6835205	B2	20041228	US 2000542972	A	20000404	200502
			US 200293990	A	20020307	

Priority Applications (No Type Date): US 2000542972 A 20000404; US 200293990 A 20020307

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020095154	A1	39	A61B-017/58	Cont of application US 2000542972
US 6835205	B2		A61F-002/44	Cont of application US 2000542972
				Cont of patent US 6402750

Abstract (Basic):

... pain is identified. A dynamic bias mechanism (100) having a pair of attachments and a **spring** with a housing, is attached to the opposite side of vertebrae. The bias mechanism is positioned **posterior** to the spinous process.

... Improves treatment by attaching dynamic bias mechanism **posterior** to spinous process. Improves accuracy on treatment, by arranging the intervertebral disk between each set...

...The figure shows the schematic left lateral and **posterior** view of dynamic bias mechanism...

...International Patent Class (Main): **A61F-002/44**

25/3,K/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

014605290 \*\*Image available\*\*

WPI Acc No: 2002-425994/200245

XRAM Acc No: C02-120666

XRPX Acc No: N02-334986

Prosthetic inter-vertebral disc for positioning in inter-somatic space between pair of adjacent vertebrae and within natural annulus fibrosus or its remaining portion, has elongated hydrogel ribbon, and hydrogel

core

Patent Assignee: SEVRAIN L C (SEVR-I); WOERLY S (WOER-I)

Inventor: SEVRAIN L C; WOERLY S

Number of Countries: 097 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200226170	A2	20020404	WO 2001CA1377	A	20010926	200245 B
AU 200193581	A	20020408	AU 200193581	A	20010926	200252
US 20030220695	A1	20031127	US 2000235324	P	20000926	200378
			WO 2001CA1377	A	20010926	
			US 2003396725	A	20030326	

Priority Applications (No Type Date): US 2000235324 P 20000926; US  
2003396725 A 20030326

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

WO 200226170	A2	E 28	A61F-002/44	
--------------	----	------	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA  
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200193581	A		A61F-002/44	Based on patent WO 200226170
--------------	---	--	-------------	------------------------------

US 20030220695	A1		A61F-002/44	Provisional application US 2000235324 Cont of application WO 2001CA1377
----------------	----	--	-------------	--

Abstract (Basic):

... A prosthetic inter-vertebral disc comprises a flexible elongated  
**hydrogel** ribbon adapted to be introduced into an inter-somatic space  
through a tenotomy opening and...

...wall of a natural annulus fibrosus such as to form a closed loop; and a  
**hydrogel** core adapted to be introduced into the inter-somatic space  
through the tenotomy opening and within the **hydrogel** ribbon.

... A prosthetic inter-vertebral disc comprises an elongated  
**hydrogel** ribbon (22), and a **hydrogel** form (24). The **hydrogel**  
ribbon is flexible and is adapted to be introduced into the  
inter-somatic space through...

...fibrosus (12) such as to form a closed loop. The loop defines a chamber.  
The **hydrogel** core is adapted to be introduced into an inter-somatic  
space through the tenotomy opening and within the **hydrogel** ribbon.  
It is adapted to extend in the chamber peripherally up to the **hydrogel**  
ribbon. An INDEPENDENT CLAIM is also included for a method of  
installing the prosthetic inter...

...vertebrae (V) and within the natural annulus fibrosus or its remaining  
portion, comprising introducing the **hydrogel** ribbon into the  
inter-somatic space through the tenotomy opening, such that the  
**hydrogel** ribbon follows the inside wall of the natural annulus  
fibrosus; introducing the **hydrogel** core in its first portion through  
the tenotomy opening and within the **hydrogel** ribbon; and displacing  
the **hydrogel** core to a second position such that it extends outwardly  
up to the **hydrogel** ribbon...

...natural annulus fibrosus or a remaining portion, or for inserting into a  
rachis (e.g., **posteriorly** into a lumbar rachis) to repair a  
degenerated natural disc of a spine...

...The inventive inter-vertebral disc can be installed in the inter-somatic  
space through **posterior** surgery of the rachis, particularly the  
lumbar rachis. It can be slid through a small...

...the damaged disc and the installation of its prosthetic replacement are done in the same **posterior** operation...

... **Hydrogel** ribbon (22...

... **Hydrogel** form (24

Technology Focus:

... Preferred Material: The **hydrogel** ribbon and the **hydrogel** core are respectively made of first and second hydrogels. The first **hydrogel** which is non-biodegradable has a polymer network which is chemically reticulated by covalent bonds...

...form and is washed in distilled water to attain its swelling equilibrium at 37degreesC. The **hydrogel** core is made of the second **hydrogel** which is non-biodegradable. The second **hydrogel** has a polymer network which is chemically reticulated by the covalent bonds. The second **hydrogel** is made of a copolymer of glyceryl methacrylate and glycidyl methacrylate, crosslinked with a glycol...

...polyethylene dimethacrylate with CH<sub>2</sub>CH<sub>2</sub> repeat unit, or other glycol dimethacrylate monomers. Preferred Properties: The first **hydrogel** is transparent and elastic, and has an inflating or swelling capability in an aqueous solution of 5-15% at equilibrium. The second **hydrogel** has a swelling or inflating capability in an aqueous solution of 60-85%, at equilibrium...

...disc has been installed, the closed loop comprises a pair of ends (32) of the **hydrogel** ribbon that overlap in the inter-somatic space and block the tenotomy opening for preventing **hydrogel** nucleus herniation. The **hydrogel** ribbon is biased outwardly when being introduced in the inter-somatic space such that it applies on the inside wall of the natural annulus fibrosus. The **hydrogel** core is adapted to be introduced through the tenotomy opening into the chamber in a...

...and to be hydrated such as to expand up to the inside surface of the **hydrogel** ribbon. Preferred Method: A free end of the **hydrogel** ribbon is positioned such as to extend outwardly of the closed loop and into the tenotomy opening for sealing the tenotomy opening. The pair of ends of the **hydrogel** ribbon is positioned in an overlapping way in the inter-somatic space such that the...

International Patent Class (Main): **A61F-002/44**

**25/3,K/7** (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

010773404 \*\*Image available\*\*

WPI Acc No: 1996-270357/199628

XRAM Acc No: C96-085968

XRPX Acc No: N96-227211

**Lumbar and lumbar-sacral posterior stabiliser - comprises two hollow components, inserted on either side of central apophysis and designed to receive spongy grafts**

Patent Assignee: EUROS SA (EURO-N)

Inventor: TISSERAND P

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2727004	A1	19960524	FR 9414068	A	19941118	199628 B

Priority Applications (No Type Date): FR 9414068 A 19941118

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
FR 2727004 A1 10 A61F-002/44  
International Patent Class (Main): A61F-002/44

**25/3,K/8 (Item 8 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
(c) 2005 Thomson Derwent. All rts. reserv.  
010773403 \*\*Image available\*\*  
WPI Acc No: 1996-270356/199628  
XRAM Acc No: C96-085967  
XRPX Acc No: N96-227210

**Lumbar-sacral vertebrae anterior stabiliser - comprises hollow insert to receive spongy grafts, located between vertebrae and having fixings angled at 90 degrees to one another**

Patent Assignee: EUROS SA (EURO-N)  
Inventor: TISSERAND P  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2727003	A1	19960524	FR 9414067	A	19941118	199628 B

Priority Applications (No Type Date): FR 9414067 A 19941118  
Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes  
FR 2727003 A1 12 A61F-002/44

...Abstract (Basic): and shaped to conform to the anatomy of the adjacent vertebrae. It has a concave **posterior** surface (1c) and a rounded anterior surface (1d), with the anterior surface having a greater height than the **posterior** one to conform to the lumbar-sacral lordosis. Its upper and lower surfaces are grooved...

International Patent Class (Main): A61F-002/44

**25/3,K/9 (Item 9 from file: 350)**

DIALOG(R)File 350:Derwent WPIX  
(c) 2005 Thomson Derwent. All rts. reserv.  
010073717 \*\*Image available\*\*  
WPI Acc No: 1994-341430/199442  
XRPX Acc No: N94-267878

**Hydrogel intervertebral disc nucleus with diminished lateral bulging - is formed of two or more pieces of hydrogel material and stiff posterior periphery and thickened anterior wall**

Patent Assignee: HOWMEDICA INC (HOWN )  
Inventor: BAO Q; HIGHAM P A  
Number of Countries: 021 Number of Patents: 012  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9423671	A1	19941027	WO 94US597	A	19940128	199442 B
AU 9460302	A	19941108	AU 9460302	A	19940128	199507
EP 695154	A1	19960207	EP 94906666	A	19940128	199610
			WO 94US597	A	19940128	
US 5534028	A	19960709	US 9349820	A	19930420	199633
JP 8504648	W	19960521	JP 94523113	A	19940128	199646
			WO 94US597	A	19940128	
AU 9871915	A	19980827	AU 9460302	A	19940128	199846
			AU 9871915	A	19980616	

JP 2840451	B2	19981224	JP 94523113	A	19940128	199905
			WO 94US597	A	19940128	
EP 919209	A1	19990602	EP 94906666	A	19940128	199926
			EP 99200440	A	19940128	
CA 2158764	C	19990309	CA 2158764	A	19940128	199928
EP 695154	B1	19990901	EP 94906666	A	19940128	199940
			WO 94US597	A	19940128	
			EP 99200440	A	19940128	
DE 69420402	E	19991007	DE 620402	A	19940128	199947
			EP 94906666	A	19940128	
			WO 94US597	A	19940128	
AU 710417	B	19990923	AU 9460302	A	19940128	199951
			AU 9871915	A	19980616	

Priority Applications (No Type Date): US 9349820 A 19930420

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 9423671	A1	E	32	A61F-002/44	
------------	----	---	----	-------------	--

Designated States (National): AU CA JP

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

AU 9460302	A			A61F-002/44	Based on patent WO 9423671
------------	---	--	--	-------------	----------------------------

EP 695154	A1	E	32	A61F-002/44	Based on patent WO 9423671
-----------	----	---	----	-------------	----------------------------

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE

US 5534028	A		15	A61F-002/44	
------------	---	--	----	-------------	--

JP 8504648	W		36	A61F-002/44	
------------	---	--	----	-------------	--

Based on patent WO 9423671

AU 9871915	A			A61F-002/44	
------------	---	--	--	-------------	--

Div ex application AU 9460302

JP 2840451	B2		14	A61F-002/44	
------------	----	--	----	-------------	--

Previous Publ. patent JP 8504648

Based on patent WO 9423671

EP 919209	A1	E		A61F-002/44	
-----------	----	---	--	-------------	--

Div ex application EP 94906666

Div ex patent EP 695154

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE

CA 2158764	C			A61F-002/44	
------------	---	--	--	-------------	--

EP 695154	B1	E		A61F-002/44	
-----------	----	---	--	-------------	--

Related to application EP 99200440

Related to patent EP 919209

Based on patent WO 9423671

Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE

DE 69420402	E			A61F-002/44	
-------------	---	--	--	-------------	--

Based on patent EP 695154

Based on patent WO 9423671

AU 710417	B			A61F-002/44	
-----------	---	--	--	-------------	--

Div ex application AU 9460302

Previous Publ. patent AU 9871915

...Abstract (Basic): The prosthetic nucleus (10) comprises a biologically compatible **hydrogel** material having when fully hydrated, a size and shape generally conforming to a natural nucleus...

...Abstract (Equivalent): a biologically compatible **hydrogel** material having, when fully hydrated, a size and shape generally conforming to a natural nucleus...

...the softest part of the nucleus, wherein the nucleus has an anterior periphery and a **posterior** periphery, and at least part of the **posterior** periphery has a modulus of at least about 10% more than the modulus of at...

International Patent Class (Main): **A61F-002/44**

28/3,K/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016687933 \*\*Image available\*\*

WPI Acc No: 2005-012214/200501

XRPX Acc No: N05-009865

Artificial disc replacement 'system for treating spinal disorder patient, has keels penetrating vertebral endplate where keels comprise oblique-orientation other than anterior-to- posterior when intradiscal component is installed

Patent Assignee: FERREE B A (FERR-I)

Inventor: FERREE B A

Number of Countries: 108 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040249465	A1	20041209	US 2003476522	P	20030606	200501 B
			US 2004860920	A	20040604	

WO 2004108015 A2 20041216 WO 2004US17978 A 20040607 200501

Priority Applications (No Type Date): US 2003476522 P 20030606; US 2004860920 A 20040604

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040249465	A1	26	A61F-002/44	Provisional application	US 2003476522
WO 2004108015	A2	E	A61F-000/00		

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Abstract (Basic):

... The system has an intradiscal component that includes an anterior portion and a **posterior** portion. Keels (306, 308) are adapted to penetrate a vertebral endplate where the keels comprise an oblique-orientation other than anterior-to- **posterior** when the component is installed. A guide is provided for aligning the system prior to...

... The keels comprising oblique-orientation other than anterior-to- **posterior** effectively prevents the great vessels from requiring as much retraction during insertion, thus decreasing the...

...The drawing shows a lateral view of a lateral side of **artificial disk replacement** (ADR) oblique-oriented keels...

28/3,K/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016206182 \*\*Image available\*\*

WPI Acc No: 2004-364068/200434

Related WPI Acc No: 2001-183026; 2002-041809; 2002-146856; 2002-194728; 2002-314694; 2002-392206; 2002-634783; 2002-664550; 2002-732029; 2002-739481; 2003-017562; 2003-017568; 2003-017569; 2003-029819; 2003-029820; 2003-074134; 2003-092377; 2003-197428; 2003-201090; 2003-289659; 2003-402804; 2003-421004; 2003-596337; 2003-644582;

2003-767098; 2003-787960; 2003-874544; 2004-032153; 2004-034500;  
2004-034511; 2004-034576; 2004-168959; 2004-179698; 2004-356935;  
2004-372849; 2004-389260; 2004-460325; 2004-479776; 2004-615275;  
2004-668051; 2004-804251; 2004-833029; 2005-020611; 2005-030751;  
2005-030771; 2005-092161; 2005-212401

XRAM Acc No: C04-137356

XRPX Acc No: N04-291213

Artificial disc replacement , comprises two components cooperating  
through articulating surface having radius of curvature that is smaller  
in anterior-to- posterior direction than that in lateral direction

Patent Assignee: FERREE B A (FERR-I)

Inventor: FERREE B A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040073311	A1	20040415	US 2002374747	P	20020423	200434 B
			US 2003421304	A	20030423	

Priority Applications (No Type Date): US 2002374747 P 20020423; US  
2003421304 A 20030423

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040073311	A1		27	A61F-002/44	Provisional application US 2002374747

Abstract (Basic):

... An artificial disc replacement (ADR) having anterior-to-  
posterior orientation and lateral orientation, comprises two  
components cooperating through articulating surface having radii of  
curvature, including radius of curvature in anterior-to- posterior  
direction and different radius of curvature in lateral direction. The  
radius of curvature is smaller in anterior-to- posterior direction  
than radius of curvature in lateral direction.

**INVENTOR**

File 155:MEDLINE(R) 1951-2005/Jul W1  
(c) format only 2005 The Dialog Corp.  
File 5:Biosis Previews(R) 1969-2005/Jun W4  
(c) 2005 BIOSIS  
File 73:EMBASE 1974-2005/Jul 05  
(c) 2005 Elsevier Science B.V.  
File 34:SciSearch(R) Cited Ref Sci 1990-2005/Jun W4  
(c) 2005 Inst for Sci Info  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info

Set	Items	Description
S1	158	AU=(SIMONSON R?)
S2	412188	POSTERIOR?
S3	1	S1 AND S2 [a duplicate]
S4	172441	DISK OR DISKS
S5	142221	DISC OR DISCS
S6	194803	SPINE
S7	611301	SPINAL
S8	26821	VERTEBRA
S9	102871	VERTEBRAL
S10	0	(S1 AND S4:S9) NOT S3
S11	2	AU='SIMONSON R E' OR AU='SIMONSON RUSH E'
S12	2	RD (unique items)
S13	1	S12 NOT S3 [not relevant]

File 350:Derwent WPIX 1963-2005/UD,UM &UP=200542  
(c) 2005 Thomson Derwent  
File 349:PCT FULLTEXT 1979-2005/UB=20050630,UT=20050623  
(c) 2005 WIPO/Univentio  
File 348:EUROPEAN PATENTS 1978-2005/Jun W04  
(c) 2005 European Patent Office

Set	Items	Description
S1	41	AU='SIMONSON R' OR AU='SIMONSON R E' OR AU='SIMONSON RUSH'
S2	29628	POSTERIOR?
S3	5	S1 AND S2
S4	35095	VERTEBRA?
S5	1	(S1 AND S4) NOT S3

3/34/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX  
(c) 2005 Thomson Derwent. All rts. reserv.  
016509425 \*\*Image available\*\*  
WPI Acc No: 2004-667705/200465

**Endoprosthetic implant for human spinal disc, has resilient column positioned about dampening matrix and maintaining desired spacing and tension between two supports in absence of loads placed upon opposing vertebrae**

Patent Assignee: SIMONSON R E (SIMO-I)  
Inventor: **SIMONSON R E**

Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040181284	A1	20040916	US 200121319	A	20011207	200465 B



US 2003449733 A 20030530

Priority Applications (No Type Date): US 2003449733 A 20030530; US  
200121319 A 20011207

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040181284	A1		15	A61F-002/44	CIP of application US 200121319 CIP of patent US 6572653

Abstract (Basic): US 20040181284 A1

NOVELTY - The **implant** (20) has a support including a plate portion positioned upon an opposing vertebral surface opposite to another support such that a lip portion of the former support overhangs the surface. A dampening matrix is positioned intermediate between supports. A resilient column is positioned about the matrix and maintains a desired spacing and tension between the supports in the absence of loads placed upon vertebrae.

USE - Used for human spinal disc.

ADVANTAGE - The resilient column positioned about the dampening matrix that is intermediate between the two supports achieves a longer wear life and accommodates increased intervertebral forces. The **implant** eliminates most **posterior** spinal pathology and the need for facet joints.

DESCRIPTION OF DRAWING(S) - DESCRIPTION OF DRAWING - The drawing shows a **posterior** view of the lumbar region of a human spine.

Endoprosthesis **implant** (20)

Spinous process (22)

Superior articular process (24)

Inferior articular process (26)

Pedicals (32)

Facet joints (34)

pp; 15 DwgNo 1/19

Derwent Class: P32

International Patent Class (Main): A61F-002/44

3/34/2 (Item 2 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016494636 \*\*Image available\*\*

WPI Acc No: 2004-652582/200463

**Vertebral implant for inserting between adjacent vertebrae, has threaded screw positioned within two portion shell and rotated so that lateral movement adjusts spacing between two portions of shell**

Patent Assignee: SIMONSON R E (SIMO-I); SIMONSON R (SIMO-I)

Inventor: SIMONSON R E ; SIMONSON R

Number of Countries: 108 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20040181285	A1	20040916	US 200121319	A	20011207	200463 B
			US 2003449733	A	20030530	
			US 2003696727	A	20031028	
WO 2004107952	A2	20041216	WO 2004US16523	A	20040525	200482

Priority Applications (No Type Date): US 2003696727 A 20031028; US

200121319 A 20011207; US 2003449733 A 20030530

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040181285	A1		24	A61F-002/44	CIP of application US 200121319

CIP of application US 2003449733  
CIP of patent US 6572653

WO 2004107952 A2 E A61B-000/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ  
CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID  
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ  
NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ  
UA UG US UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR  
GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL  
SZ TR TZ UG ZM ZW

Abstract (Basic): US 20040181285 A1

NOVELTY - A two portion shell, positioned between a superior support (44) and an inferior support (46), has arcuate upper and lower surfaces that corresponds to the arcuate troughs formed within the superior and inferior supports. A threaded screw, positioned within the two portion shell, is rotated so that lateral movement adjusts the spacing between two portions of shell.

USE - For inserting between adjacent vertebrae used to replace intervertebral disc.

ADVANTAGE - Prevents any lateral migration of the supports. Ensures limited **posterior** and anterior range of motion while limiting the lateral motion. Ensures longer wear life and accommodates increased intervertebral forces by using mechanical spring. Eliminates need for facet joints.

DESCRIPTION OF DRAWING(S) - The figure shows the **posterior** view of the lumbar region of a human spine.

Superior vertebrae (36)

Inferior vertebrae (38)

Superior support (44)

Inferior support (46)

Spring (48)

pp; 24 DwgNo 2/40

Derwent Class: P31; P32

International Patent Class (Main): A61B-000/00; A61F-002/44

3/34/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

015492508 \*\*Image available\*\*

WPI Acc No: 2003-554655/200352

**Vertebral implant for insertion between first and second opposing vertebral surfaces, comprises first support, second support, and spring positioned intermediate the supports**

Patent Assignee: SIMONSON R E (SIMO-I)

Inventor: **SIMONSON R E**

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6572653	B1	20030603	US 200121319	A	20011207	200352 B

Priority Applications (No Type Date): US 200121319 A 20011207

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6572653	B1	12	A61F-002/44	

Abstract (Basic): US 6572653 B1

NOVELTY - A vertebral **implant** comprises a first support (44) having a plate portion and a lip (58) portion, a second support (46) having a plate portion and an offset lip (76) portion, and a spring (48) positioned intermediate the supports. Each plate portion is positioned upon a vertebral surface such that its corresponding lip portion overhangs the vertebral surface.

USE - The invention is used for replacing the fibrocartilage between facing surfaces of adjacent superior and inferior lumbar vertebrae (38).

ADVANTAGE - The invention can be **implanted posteriorly**. It utilizes spring to achieve longer wear life and accommodate increased invertebral forces. It eliminates most **posterior** spinal pathology, and the need for facet joints.

DESCRIPTION OF DRAWING(S) - The figure shows an exploded view of an **implant** system.

Inferior lumbar vertebrae (38)  
First support (44)  
Second support (46)  
Spring (48)  
Lip (58)  
Offset lip (76)  
Channels (92, 96)  
pp; 12 DwgNo 13/15

Technology Focus:

TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred Components: The supports are coated with hydroxyapatite. The spring is formed from oblong coils and tapers from a second end to a first end. The plate portion of each support includes teeth for engaging the vertebral surface with the spring positioned between the supports, and a retainer for fixing the position of the spring positioned between the supports. The offset lip portion of the second support accommodates a vertebral pedical. The first and second supports are received within channels (92, 96) formed within the first and second vertebral surfaces. Each support includes a side wall that tapers from a second end to a first end. The lip portions of the supports are formed at an angle relative to the plate portions. Each lip portion contacts a **posterior** edge of the first and second vertebral surfaces.

Derwent Class: D22; P31; P32

International Patent Class (Main): A61F-002/44

International Patent Class (Additional): A61B-017/56

5/7/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016740972 \*\*Image available\*\*

WPI Acc No: 2005-065269/200507

Working channel creating method for minimally invasive spinal surgery e.g. laminotomy, involves inserting cannula over dilator, and removing dilator, where bore of cannula defines channel from skin incision to vertebrae

Patent Assignee: DEPUY SPINE INC (DEPU-N)

Inventor: SIMONSON R E

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
-----------	------	------	-------------	------	------	------

US 20050004593 A1 20050106 US 200124221 A 20011030 200507 B  
US 2004899707 A 20040726

Priority Applications (No Type Date): US 200124221 A 20011030; US  
2004899707 A 20040726

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 20050004593 A1 7 A61M-029/00 Div ex application US 200124221

Abstract (Basic): US 20050004593 A1

NOVELTY - The method involves making a skin incision, and inserting a distal end of a non-cannulated dilator (10) into the incision. The distal end is advanced into proximity to a **vertebra**, where the dilator extends from proximate the **vertebra** to external to the incision. A cannula (21) is inserted over the dilator and the dilator is removed. A bore of the cannula defines a working channel from the incision to the **vertebrae**.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a dilation system comprising a non-cannulated dilator and a cannula.

USE - Used for creating a working channel that is utilized for minimally invasive spinal surgery e.g. laminotomy, medial facetectomy, foraminotomy, nerve root retraction and discectomy.

ADVANTAGE - The method defines the channel from the skin incision to the **vertebrae** such that a surgeon when performing the procedure will get a feel as an instrument passes through tissue and muscle of the patient so that the surgeon will have a good sense of what portion of the anatomy is being penetrated. The method thus helps in assisting the surgeon in avoiding likelihood of passing through a spinal canal, and hence eliminates injury to the delicate neutral anatomy.

DESCRIPTION OF DRAWING(S) - The drawing shows a perspective view of a series of sequentially enlarged diameter dilators that are inserted over a dilator in order to widen a cavity to insert a cannula.

Non-cannulated dilator (10)  
Cylindrical solid elongated body (12)  
Tool receiving portion (14)  
Pointed parting tip portion (16)  
Cannula (21)  
pp; 7 DwgNo 2/5

Derwent Class: P34

International Patent Class (Main): A61M-029/00